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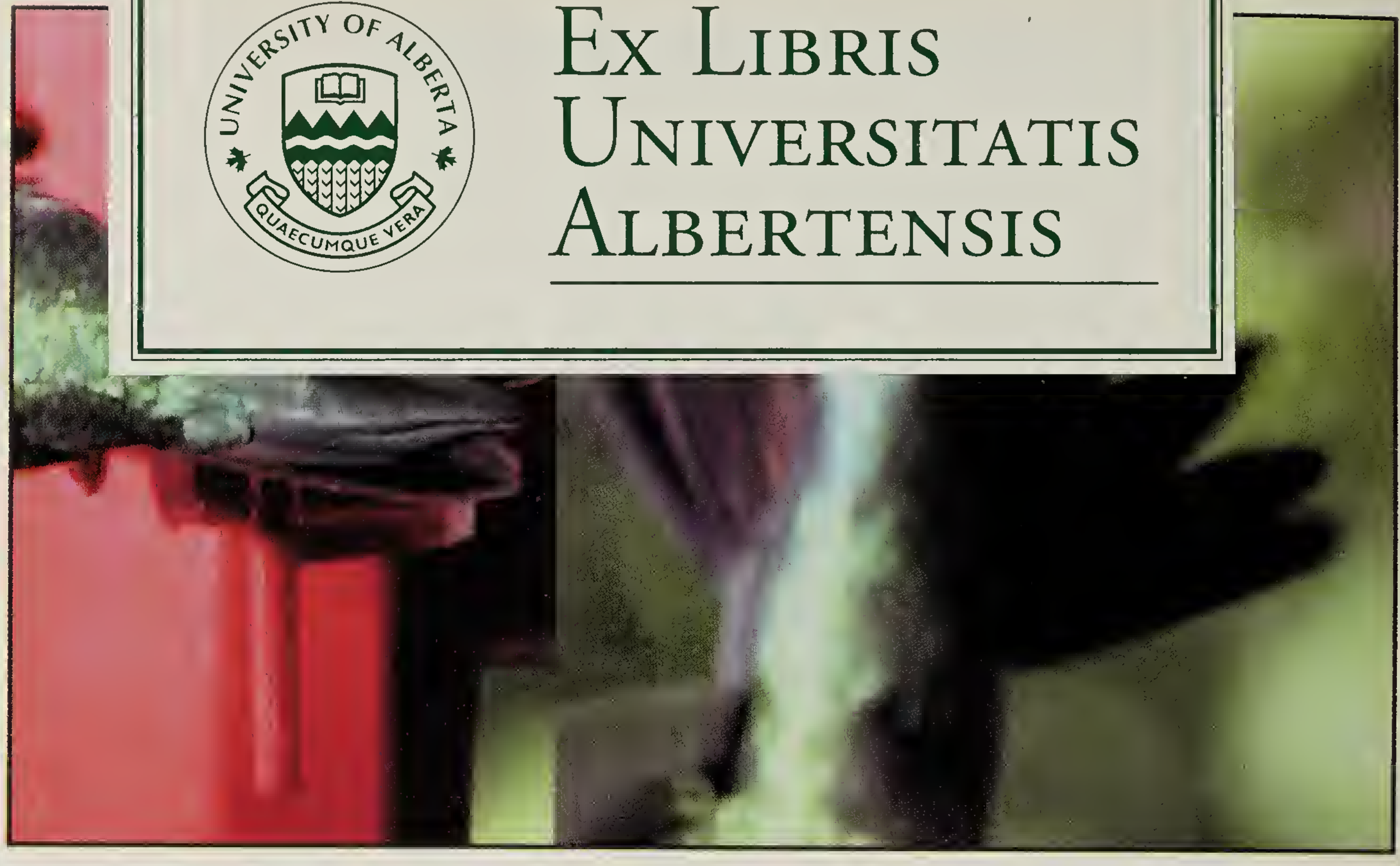

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Painted Turtle, Wascana Lake in Regina on 25 August 2006
Diether Peschken

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EDITOR'S MESSAGE

With this issue, we pilot changes to the look and format of Blue Jay. The use of the inside front and back covers for printing colour images is new and provides space for colour images submited with articles. The cost of colour for the inside pages is prohibitive, but printing colour on these surfaces does not add to the cost of production. The pages that were formerly on the inside covers–editorial information and the list of Nature Saskatchewan contacts–now are at the end of each issue with the membership application form.

The weight and surface texture of the pages within the magazine in this issue resemble those in issues printed in the 1990s. The lighter weight should make each issue less bulky to hold and to store, and the surface coating should enhance the appearance of images printed in black and white. The new paper contains 50% recycled paper, a great improvement over the previous 10%. As with printing colour on both sides of the cover, these changes do not add to the cost of production.

We welcome your feedback on these changes. Our contact information, as well as that of Nature Saskatchewan, can be found at the end of the issue on page 244.

The magazine continues to benefit from the committment and generosity of the people who write, review, edit, format and proofread submissions, as well as those who provide photographs and drawings. We would also like to acknowledge the assistance of Teresa Dolman, who prepares the index for each issue, and Bob Nero, who writes abstracts of Blue Jay articles and notes for Ornithological Worldwide Literature. Both provide valuable access to the contents of current and past issues of Blue Jay.

Teresa has also volunteered to tackle a cumulative index for issues of Blue Jay from 1990 to 1999. At present, cumulative indices exist only for the first 36 volumes, i.e. up to and including 1978. Volumes 37 to 64 have only annual indices. We are working with Teresa to fill this gap, but need some additional volunteer help for proofing the index. This work involves checking each index entry against information in the magazine for correctness, and is an ideal job for a couple who enjoy working together on an indoor project in the winter months. If you are interested, or know of someone who might be, please contact the editors via telephone, e-mail or letter as soon as possible (see page 244).

Best wishes for the new year.

Anna and Ted Leighton, editors

THE INFLUENCE OF NESTBOX STYLE AND ENTRANCE HOLE SHAPE ON BOX PREFERENCES OF MOUNTAIN BLUEBIRDS AND TREE SWALLOWS

MYRNA PEARMAN, Ellis Bird Farm, Box 5090, Lacombe, AB T4L 1W7 and CHRISTA BECKMANN, Department of Biology, University of Regina, Regina, SK S4S 0A2

Standard box with oval hole (foreground) paired with standard box with round hole (background). Boxes in a pair were placed 8 - 10 m apart along the fence line. *Myrna Pearman*

Introduction

There is some debate among bluebird trail operators regarding the suitability and/or superiority of different box styles.[8] One of the more vigorously debated box styles is the "Peterson" box, designed by Richard Peterson of Minnesota in the late 1970s. This box, which has a slanted front-opening panel and an oval hole, is widely used throughout Minnesota, Indiana and adjacent states.[10] This box has several favorable attributes: a sloping roof that provides shade and deters predators; a slanted bottom that eliminates moisture accumulation and allows for easy nest observation and cleaning, a 35 mm x 57 mm (1 3/8 in. x 2 1/4 in.)

oval entrance hole that allows easy access by adult birds to feed nestlings and remove fecal sacs, and a front that can be retrofitted with special sparrow traps or predator guards. However, some bluebird trail monitors have voiced concerns about increased predation potential in these boxes due to the relatively large hole and shallow nesting area, and about the risk of use by European Starlings. [3,4,6,9]

The issue of European Starling use is a complex one. Entrance holes larger than 40 mm (1 9/16 in.) will allow entry by starlings[1], and although use of the Peterson box by starlings has not been found to be a significant problem, the oval entrance hole does not exclude determined starlings.[3,4,9,10] Trail operators have observed, however, that both Eastern Bluebirds[4] and Mountain Bluebirds[5] prefer large entrance holes over smaller ones. Most trail operators use a 38-mm (1 1/2 in.) hole for Eastern and Western Bluebirds and a 40-mm (1 9/16 in.) hole for the slightly larger Mountain Bluebirds. The larger hole is also commonly used in areas where the range of the Mountain Bluebird overlaps with the other two species.[7]

In 1996, Berner[2] set up a two-year study in upstate New York to test whether it was the Peterson box shape or the oval-shaped entrance hole that influenced box preference by Eastern Bluebirds. He set out 24 combinations of each hole/box shape (a total of 96 boxes), comparing Peterson box shapes with standard box shapes, and oval holes with round holes. The standard boxes he used had a floor size of 102 mm x 114 mm (4 in. x 4 1/2 in.) and an entrance hole of 38 mm (1 1/2 in.). The two-year field trial indicated that Eastern Bluebirds showed a strong preference for standard boxes with oval holes, and that Tree Swallows most frequently used Peterson-shaped boxes with round holes. In a later paper, Berner stated that it was the oval hole of the Peterson box and not its wedge-shaped design that most attracts Eastern Bluebirds.[3]

Since few Peterson boxes have been used within the range of the Mountain Bluebird, we conducted a field trial styled after Berner in central Alberta to compare box preference between standard and Peterson-style boxes.[2] In this study, we tested whether a specific box shape alone (Peterson or standard) or entrance hole shape alone (oval or round) influenced box choice in Mountain Bluebirds. Although Mountain Bluebirds were the target species, data on box preference were also collected on Tree Swallows, which are the most common box nesters in central Alberta.

Methods

Field site and study design

Field work was conducted near Ellis Bird Farm northeast of Red Deer, Alberta for seven years between 1997 and 2003. The area is comprised of open aspen (*Populus tremuloides*) parkland underlain by sandy soils. The dominant land uses in the area are grazing and forage production.

We used the following nest boxes: Peterson with round holes (PR), Peterson with oval holes (PO), standard with round holes (SR) and standard with oval holes (SO). The measurements for the Peterson box (given in the introduction above) were from Scriven[10] and the standard boxes were patterned after those most commonly used throughout the range of the Mountain Bluebird: a top-opening style with 127 mm x 127 mm (5 in. x 5-in.) floors and a 40 mm (1 9/16 in.) entrance hole.

Following Berner,[2] boxes were paired so that only one attribute would be different between the boxes within each pair (i.e. hole shape or box shape).[2] Five pairs of boxes of each grouping (1A, 1B, 2A, and 2B, see below) were placed in random order on fence posts in ideal bluebird habitat along Highway 597. Boxes in a pair were 8 - 10 m apart and pairs of boxes were spaced between 150 - 450 m apart, depending on habitat suitability. While the sample size was small, the trial was conducted over a period of seven years.

We used two sets of pairs. To test if *box shape* influences box choice the pairs were: **1A**, Peterson shape with round hole (PR) paired with Standard shape with round hole (SR) and **1B**, Peterson shape with oval hole (PO) paired with Standard shape with oval hole (SO). To test if *hole shape* influences box choice: **2A**, Standard shape with oval hole (SO) paired with Standard shape with round hole (SR). **2B**, Peterson shape with oval hole (PO) paired with Peterson shape with round hole (PR).

Statistical analysis

The first species to attempt to nest in one box of the pair was recorded. The species that occupied the remaining box of the pair was not included in the data set as this bird would no longer have actively "chosen" one of the boxes but would have simply used the only remaining available box of the pair.

A box was considered "chosen" if the nesting cycle progressed to the point that the nest cup was complete. Only first nesting attempts were examined (re-nests and second broods were excluded). Uncommon bird species were excluded from statistical analysis due to low sample sizes (Black-capped Chickadee N=5, House Sparrow N=4). European Starlings also attempted to nest on five occasions; however, in each case it was determined that entry was possible because the hole was slightly larger than the required dimensions (it is difficult to make the hole precise because the elongated hole entails drilling two round holes and then joining them together using a jigsaw). In cases where starlings attempted to nest, the boxes were retrofitted with properly sized entrance hole. This retrofit successfully deterred their subsequent use by starlings.

The total number of nestboxes of each style occupied first in each box pair were summed over all years. Binomial tests were performed for each species within each pairing to determine whether a preference was exhibited for any single attribute.

Results and discussion

Neither the Peterson or standard-

Table 1. Number of nesting attempts by Mountain Bluebirds and Tree Swallows in each box pairing and test statistic from Binomial Tests.

pairing	MOBL	test statistic	TRES	test statistic
1A) PR and SR	13 and 5	p = 0.096	4 and 5	p = 0.82
1B) PO and SO	5 and 7	p = 0.77	4 and 12	p = 0.08
2A) SO and SR	9 and 3	p = 0.15	10 and 5	p = 0.30
2B) PO and PR	8 and 10	p = 0.82	5 and 3	p = 0.73

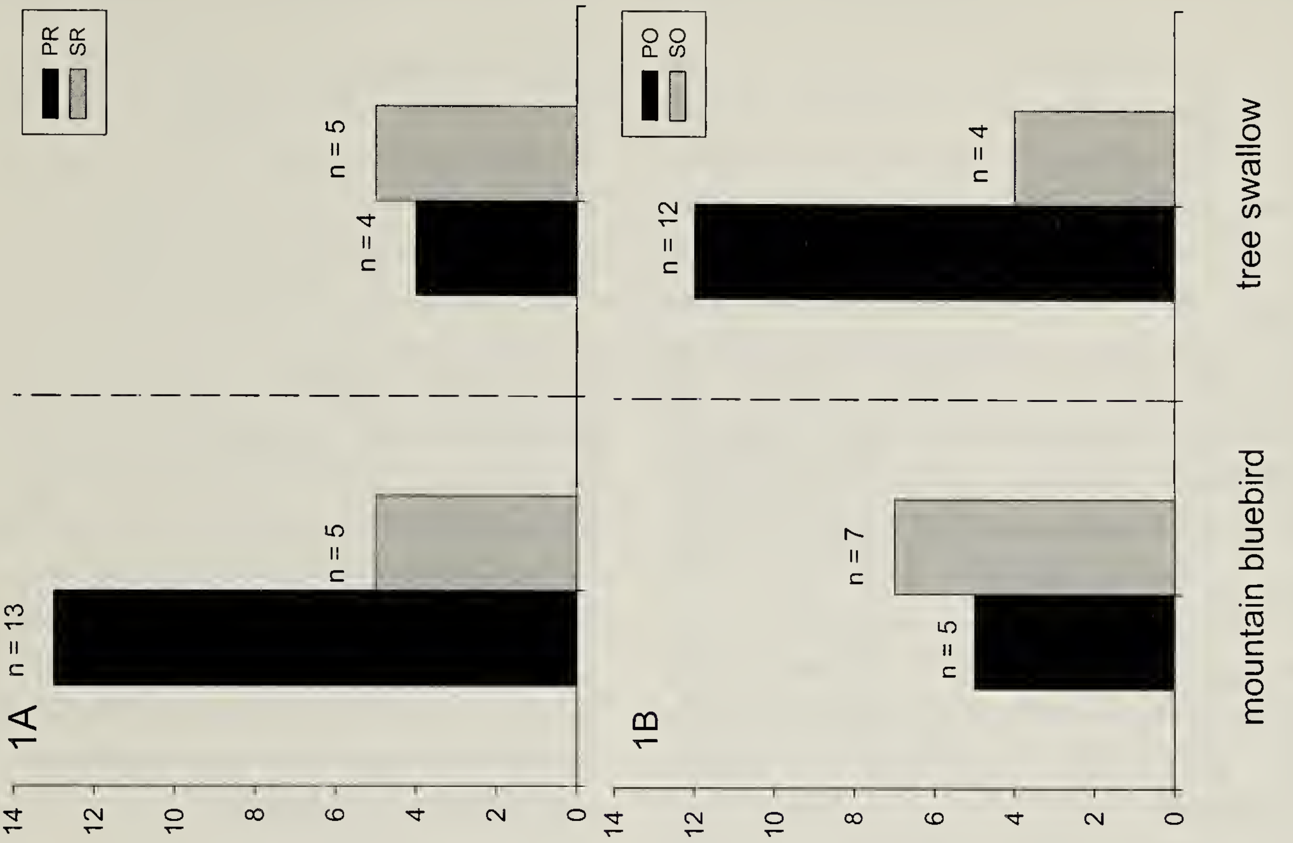

Figure 1. Number of occupied boxes summed over all years for Tree Swallows and Mountain Bluebirds; (1A) Peterson box with round entrance (black bars) paired with standard box with round entrance (grey bars); (1B) Peterson box with oval entrance (black bars) paired with standard box with oval entrance (grey bars).

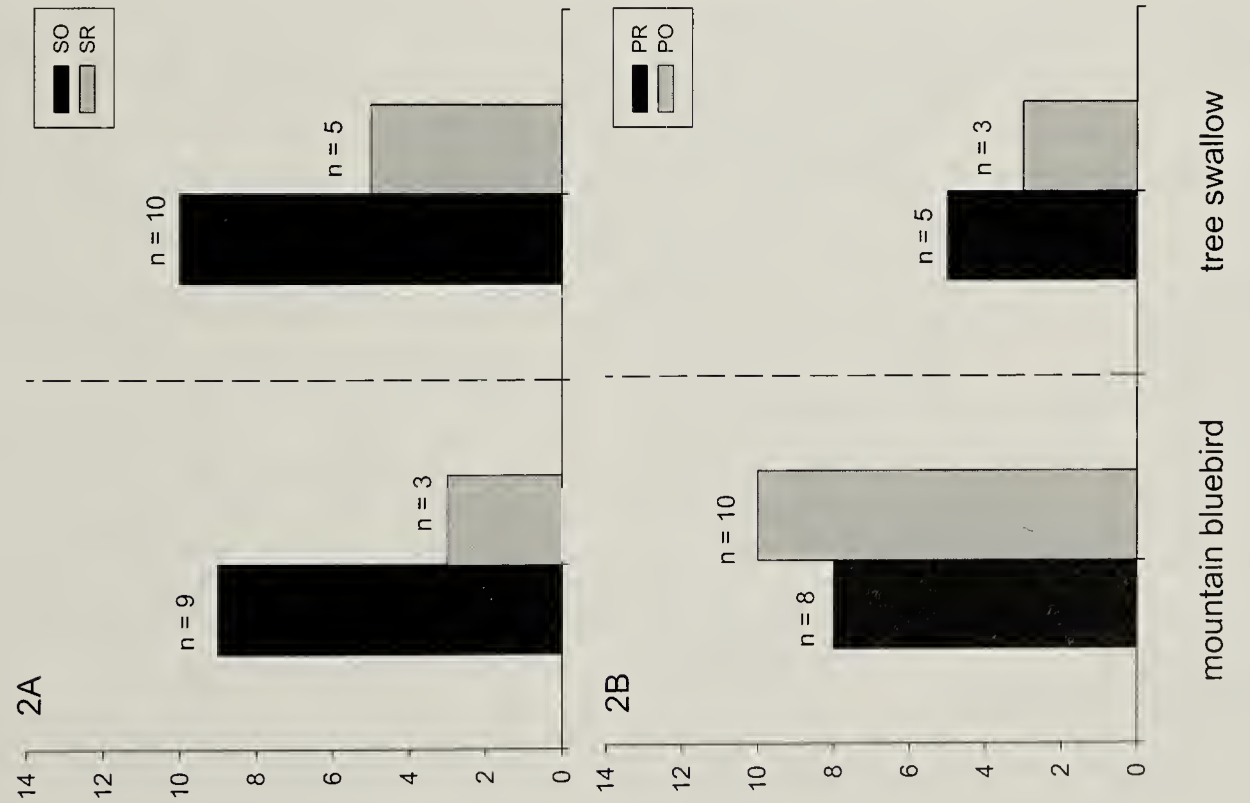

Figure 2. Number of occupied boxes summed over all years for Tree Swallows and Mountain Bluebirds; (2A) Standard box with oval entrance (black bars) paired with standard box with round entrance (grey bars); (2B) Peterson box with round entrance (black bars) paired with Peterson box with oval entrance (grey bars).

shaped box style, nor the oval or round entrance hole influenced box choice for Mountain Bluebirds or Tree Swallows, (see Table 1, Figures 1 and 2). Sample sizes in our study were low (varying from 8 to 18), which may have contributed to our statistically non-significant results. If the sample size had been larger, statistically significant results may have been seen with Mountain Bluebirds for box pairing 1A and Tree Swallows for box pairing 1B, as the p-values were approaching significance ($p = 0.096$ and 0.08 respectively). This suggests that Mountain Bluebirds may prefer the Peterson box with a round entrance over the standard box with a round entrance, and Tree Swallows may prefer the standard box with an oval entrance over the Peterson box with an oval entrance. Despite using the same study design, our results are not directly comparable to Berner[2] as he compared total occupancy of all boxes, not just those boxes that were first chosen within each pair.

While box design is an important factor in attracting breeding pairs of bluebirds, the overall goal of a bluebird trail is to maximize reproductive success. It is therefore important to examine the nesting success, not just box choice, in boxes of various designs. We intend to analyze the nesting data of all the boxes used in this study to determine whether or not reproductive success varied with box style.

Acknowledgements

This study was conducted as part of the Ellis Bird Farm Ltd.'s bluebird conservation program. It was overseen by Ellis Bird Farm Research Committee members, Dr. Bob Lane and Bill Baile. Funding assistance for supplies required to build the boxes was provided by the Red Deer and District Community Foundation (RDDCF) though their Conservation of Bluebirds, Swallows and other Native Cavity Nesting Birds (Field of Interest) Fund. Funding for the analysis of the data was provided by the Red Deer River Naturalists (RDRN). Thanks to Kevin Berner for his assistance with setting up the study and reviewing the manuscript, to the Ellis Bird Farm Board of Directors for their ongoing support, and to both RDDCF and the RDRN for financial assistance. We would also like to thank Bernie Daniel and Meghan Ford for assisting with some of the preliminary analyses.

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MANITOBA'S SOUTHERN BIRD INVASION, MAY 2006

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May 2006 was an exceptional month for birding in Manitoba, with a string of southern rarities that produced no fewer than three provincial firsts (if accepted): Swainson's Warbler, Black Vulture, and Broad-tailed Hummingbird. The majority of these southern rarities were Neotropical migrants with predominantly Carolinian or southern temperate breeding distributions, whose nearest breeding grounds average 700 km south-southeast of Manitoba. Several species that breed in western North America, but are either very rare in Manitoba or irruptive, were also recorded, including an immature Whooping Crane that remained in the St. Adolphe area for at least a month. Details of the provincial firsts are provided in Table 1, and other accidental and noteworthy species are summarized in Table 2.

First Records in Manitoba

In the second week of May, two species which had not previously been recorded in Manitoba, Swainson's Warbler and Black Vulture, were each photographed approximately 2000 km north of their nearest breeding grounds.[1, 4] The Swainson's Warbler was found in river bottom forest of Beaudry Provincial Park, just west of Winnipeg, on May 8 (Figure 1). An

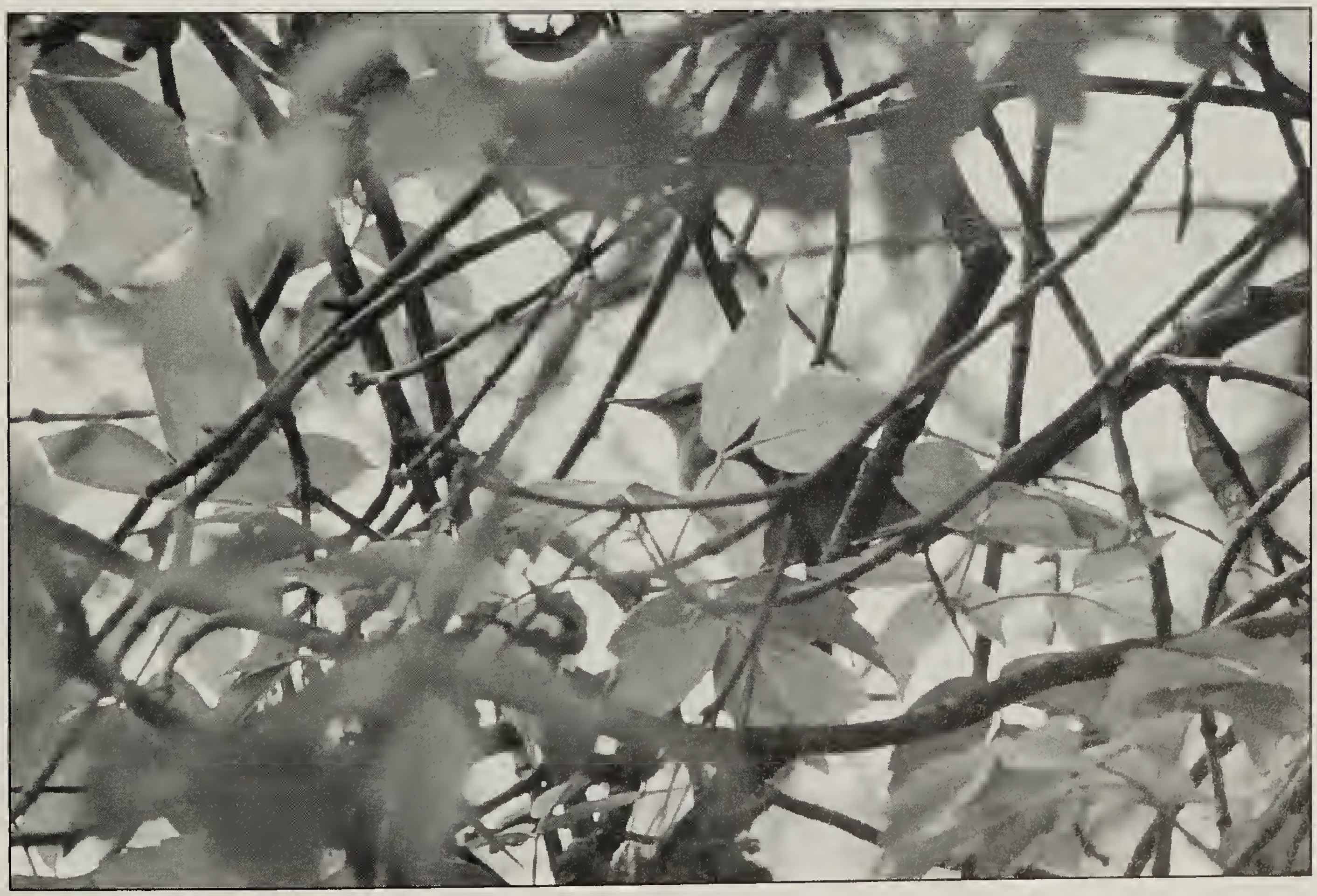

Figure 1. Swainson's Warbler in Beaudry Provincial Park on May 8, 2006.
Christian Artuso

indication of the extraordinary nature of this record is that there are no accepted reports of Swainson's Warbler in Minnesota (Kim Eckert, pers. comm.). This appears to be the first sighting in western Canada of this skulking species. There are eight accepted Canadian records — seven from Ontario,[7] and one from Nova Scotia.[8] Interestingly, a single observer reported a Swainson's Warbler in Toronto on May 12, 2006 (Mount Pleasant Cemetery, Attila Fust), only three days after the Manitoba record. This has not yet been reviewed by the Ontario Bird Records Committee.

The Black Vulture was photographed in Wanless, 37 km north of The Pas, on May 11 (Figure 2) and the photo was posted on the Manitoba Naturalists Society web page as an identification query. Although this is the first record in Manitoba, this species has a history of vagrancy in eastern Canada,[9] with 50 accepted records in Ontario,[7] and several records in western Canada, including one at Fort Qu'Appelle, Saskatchewan on 25 May 1992,[15] and one photographed at Kluane Lake, Yukon on July 2, 1982.[8] There are three accepted records in Minnesota (August 28, 2001 in Duluth; April 29, 2003 in Duluth; and May 26, 2004 near Two Harbours) (Anthony Hertzel, pers. comm.). The only record from North Dakota involves two birds shot near Sanborn in September 1892.[3]

On May 16, a male Broad-tailed Hummingbird visited a feeder in Portage la Prairie and remained in the area for approximately two weeks, attracting birders from as far afield as Ontario and British Columbia (see back cover and inside front cover photographs). This is the first record for the prairie provinces and only the third in Canada; the two previous ones were July sightings of adult males in British Columbia.[6] There are no records from Minnesota (Anthony Hertzel, pers. comm.) and the only record for North Dakota was a first-year *Selasphorus* believed to be this species, photographed in Kidder County on September 3, 2006 (not yet reviewed).[13]

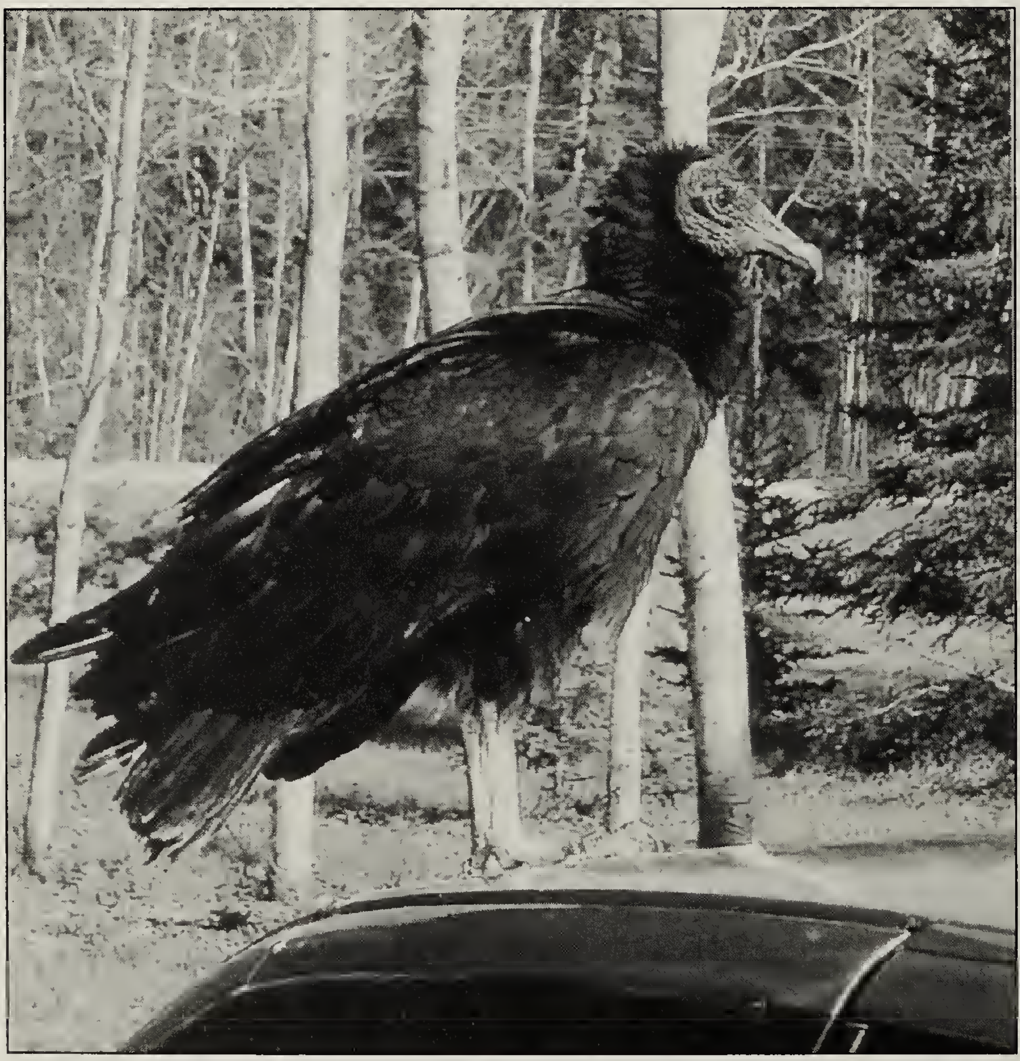

Figure 2. Black Vulture in Wanless on May 11, 2006
Rita Beecham.

Table 1. First records in Manitoba in May 2006 with distance to nearest breeding sites as calculated from *The Birds of North America* accounts (not including areas where the species is described as a rare breeder).

Species	Date: May	Location	Nearest breeding	Observer(s)
Swainson's Warbler (1)	08	Beaudry PP	MO: 1900 km SSE[1]	C. Artuso*
Black Vulture (1)	11	Wanless	IN: 1950 km SE OK: 2000 km SSE[4]	D. Beecham*
Broad-tailed Hummingbird (1 ♂)	16-29	Portage la Prairie	WY: 900 km SW[5]	C. Braden, m.o*

m.o = many observers. An asterisk after the observer's name indicates that the bird was photographed.

Other Accidental and Noteworthy Species

A male Prothonotary Warbler was present from May 3 – 6 at the Fort Whyte Centre (FortWhyte Alive) in Winnipeg, where it was observed feeding low above the water of several small lakes (see inside front cover photograph). This individual may have been present in late April according to the Centre's staff (Leslie Alexander, pers. comm.). There are only five previous records of this species in Manitoba, although only two of the four discussed in *The Birds of Manitoba* are accepted.[11] A fifth record occurred after the publication of that book, when Brad Carey, Ward Christianson, Larry de March, and Marlene Waldron observed a Prothonotary Warbler at St. Ambroise Provincial Park on September 11, 2004. Two of the five Manitoba sightings were in May. Four of the seven records from Saskatchewan were in May and three were in the fall.[15]

Another exceptional visitor was an immature Whooping Crane, first recorded on May 10 near St. Adolphe (Figure 3). Discussions with local residents suggest it was present in the first week of May (Greg Buzza, pers. comm.). This bird was unbanded and therefore from the Wood Buffalo flock. It may have found its way to Manitoba after being separated from accompanying adults during migration (Brian Johns, pers. comm.). It remained

Table 2. Other accidental and noteworthy species recorded in Manitoba in May 2006 with the number of previous accepted records from *The Birds of Manitoba.*[11]

Species	Date: May	Location	# Previous Manitoba Records	Observer(s)
Prothonotary Warbler (1 ♂)	03-06	Winnipeg	2 accepted records	L. Cocks, m.o*
Yellow-crowned Night-Heron (1)	05	Winnipeg	19+ previous records	A. Aug*
Trumpeter Swan (1 - 5)	6 - 30	Pinawa	recent breeding[9]	P. Taylor, m.o*
White-faced Ibis (6)	6 -	Oak Hammock	recent breeding[2]	G. Grieef, S. Grieef
Snowy Egret (1)	10	St. Adolphe	increasingly regular at Whitewater Lake	A. Courcelles, J. Bell, m.o
Whooping Crane (1 immature)	10-	St. Adolphe	former breeder	C. Stevens, m.o*
Lark Bunting (1 ♀)	19	Oak Hammock	irruptive, has bred	D. Swayze, G. Machnee*
Eurasian Collared-Dove (1+)	22	Lyleton	present in 2005	K. de Smet, m.o*
Black-necked Stilt (2 pairs)	22-	Whitewater Lake	7 previous records	K. de Smet, m.o*
Red-bellied Woodpecker (1 ♂)	23	Selkirk	>30 records, has bred?	N. Massey*
Green Heron (1)	24	Winnipeg	~100 records, has bred	A. Ens, m.o
Snowy Egret (1)	25	near The Pas	increasingly regular at Whitewater Lake	E.Bouvier, B.Pillipow*
Yellow-billed Cuckoo (1)	27- 28	Winnipeg	21 records, has bred	B. Carey, m.o*
Black-headed Grosbeak (1 ♂)	30-	Melita	>20 records	K. de Smet, m.o*
Little Blue Heron (1)	31	Whitewater Lake	16+ records	K. de Smet, m.o*

Dates left open ended were present into June or later. Reports from single observers without photographic documentation are not included in this table. m.o = many observers. An asterisk after the observer's name indicates that the bird was photographed.

in the Tourond Creek area for over a month, the last sighting being on June 12 by George Holland and Heather Laird. More than 150 people delighted in observing this magnificent bird (Larry de March, pers. comm.). This is the second time in recent years that an immature Whooping Crane has (partially) summered in Manitoba, the last being near Delta from June 14 to July 29, 1988.[11] Two months later, an adult Whooping Crane spent August 13 – 18 associating with Sandhill Cranes in the area between Ashern and Moosehorn near Lake Manitoba (Albert Hochbaum and many observers). Since immature birds acquire an adult facial pattern by 350 days old,[10] it is possible that this was the same bird as seen near St. Adolphe.

There were several single-observer reports which lack photographic documentation and must therefore be treated as hypothetical. The most noteworthy of these was a Worm-eating Warbler on May 30 at Delta. The only accepted record of this species in Manitoba was at the same time of year and along the same beach ridge in 1996.[11] Seven Lark Buntings were reported from southwestern Manitoba in mid- to late May and an Eastern Meadowlark from the Sandilands area on May 26. There were also several interesting records just outside of the period considered here, including a Northern Mockingbird at Grand Beach on April 28, a male Harlequin Duck at Seven Sisters from June 2 to early August, a male Eurasian Wigeon at Oak Hammock on June 5, and a Yellow-billed Cuckoo near the Rat River Wildlife Management Area on June 6 (single observer).

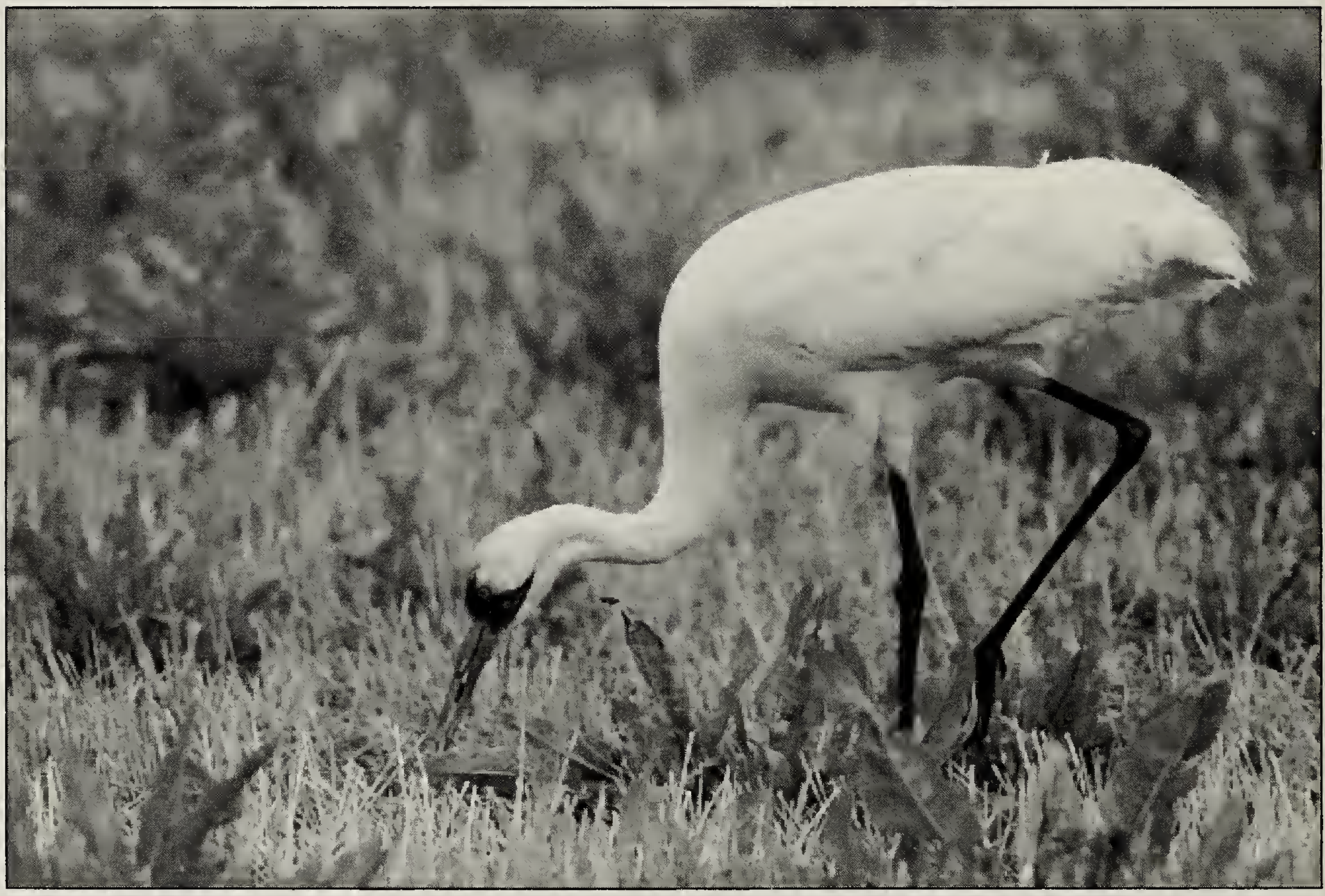

Figure 3. Immature Whooping Crane near Tourond Creek on May 15, 2006.
Christian Artuso

Weather (or not)

The fact that so many extraordinary vagrants occurred within a short period of time suggests that weather phenomena may have been influential. Although the following discussion is speculative, it is worth commenting on some of the patterns in timing and distribution. The Yellow-crowned Night-

Heron (Table 2), was found in the same area of the Fort Whyte Centre as the Prothonotary Warbler. These two species have similar northern limits to their breeding ranges along the flood plains of the upper Mississippi River in Minnesota,[14, 16] and their unlikely co-occurrence in Winnipeg might be linked to a weather event such as the low pressure system(s) that moved through central North America from April 28 to May 4.[12] The 2000 km vagrancies of the Swainson's Warbler and Black Vulture were separated by a mere three days. The breeding ranges of these two species in the southeastern U.S.A are also somewhat similar, although the range of Black Vulture extends farther northeast along the eastern seaboard.[1, 4] These records coincide with a low-pressure system that moved northeast over Ontario and Quebec from May 6 – 8.[12]

Acknowledgements

I am grateful to Peter Taylor and Rudolf Koes for their assistance in compiling records and checking my accuracy. Larry de March, Ken De Smet, Stuart Houston, Bob Luterbach and two anonymous reviewers provided thoughtful comments which greatly improved this note.

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FIRST BREEDING RECORD OF THE NORTHERN WHEATEAR IN MANITOBA

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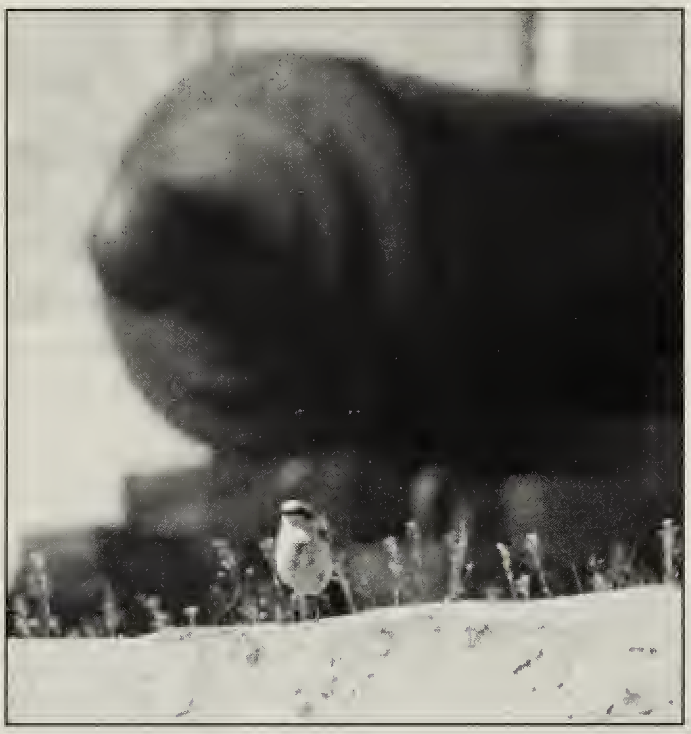

Figure 1 – Male Northern Wheatear at Fort Prince of Wales, Churchill, MB, July 7, 2006. Theresa Hannah

The Northern Wheatear is one of approximately 20 species in a relatively small group of thrush-like passerines in the genus *Oenanthe*. Of this primarily Palearctic genus, the Northern Wheatear has the widest global distribution, with two distinct, subspecific breeding populations occurring in North America. The western or nominate race (*O. o. oenanthe*) occurs in Alaska, Yukon and the northwestern Mackenzie district of the Northwest Territories; the eastern or Greenland race (*O. o. leucorhoa*) occurs in northeastern Canada, Greenland and Iceland.[5]

The main stronghold of the Greenland race in Canada includes Ellesmere and Baffin Islands, and the Atlantic coast of Labrador, with smaller, isolated breeding populations on Cornwallis and Coats Islands, and the northern tip of Ungava Peninsula.[3] In recent years, isolated breeding records have come from Rankin Inlet, on the west shore of Hudson's Bay[6], along with Inukjuak, Akuliuik, and

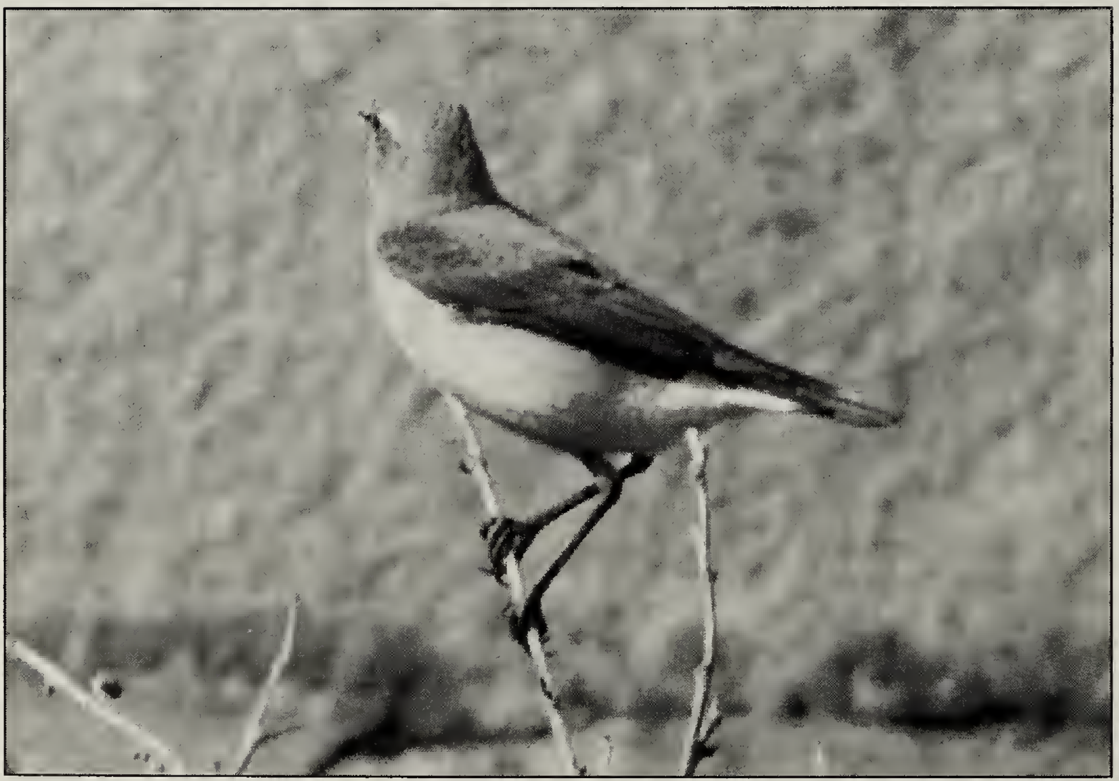

Figure 2 – Female Northern Wheatear perched outside nest at Fort Prince of Wales, Churchill, MB, July 7, 2006. Kevin Hannah

Aupaiuk, all on Ungava Peninsula, suggesting that this subspecies is expanding its range west and south around Hudson's Bay.[4] In Manitoba, there are no confirmed breeding records for this species, though several spring and early fall sightings have occurred at Churchill.[4] We present here the first published record of the Northern Wheatear breeding in Churchill, Manitoba, well south of the previous southern breeding limit for this species in Canada.

On a visit to Prince of Wales Fort National Historic Site (58° 47' 55" N - 94° 12' 45" W), located northwest of the town of Churchill, MB (58° 43' 30" N - 94° 07' 00" W), on 7 July 2006, we observed a male Northern Wheatear with insects in its bill, perched on one of the stone walls within the fort (Figure 1). There were approximately 30 visitors at the fort and the bird appeared to be quite agitated, moving constantly from wall to wall within the fort courtyard. A female Northern Wheatear, also with insects in its bill, perched in a small bush approximately 1 m from the north, inner courtyard wall of the fort (Figure 2), eventually flying into a small 30 x 15 cm triangular opening in the stone wall (Figure 3). We immediately heard the sound of nestlings in the opening and within a few seconds the female reappeared, carrying a fecal sac in its bill. Over the span of approximately 20 minutes, we observed both adults each make two feeding visits to the nest. The opening in the stone wall was approximately 15 cm deep, with a deeper cavity off to the right side, extending another 15 cm. The nest was located at the end of this L-shaped cavity. It was not possible to see the nest, so we were unable to count the number of nestlings present. Given the frequency of vocalizations when the adults entered the nest, we conservatively estimated that there were at least two nestlings inside.

To reconstruct the breeding chronology of this nesting pair, we compiled the 2006 observations of Northern Wheatears near Churchill, MB (Table 1). On 31 May, a single adult male Northern Wheatear was observed just east of the town of Churchill, near Bird Cove (E. Nol, pers. comm.). We

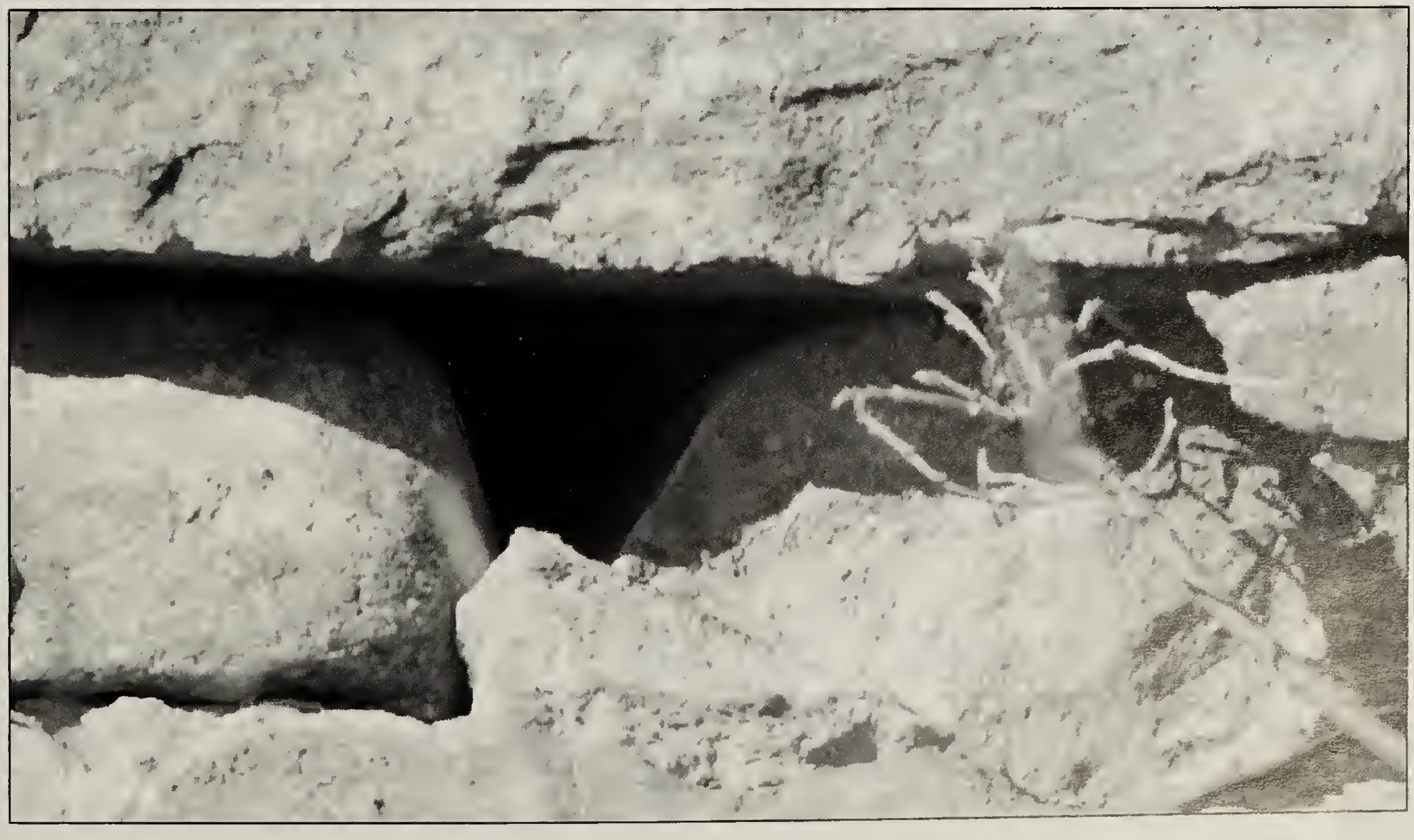

Figure 3 – Northern Wheatear nest cavity at Fort Prince of Wales, Churchill, MB, July 7, 2006
Kevin Hannah

later learned that Allen and Della Wells had observed a pair of wheatears at the Prince of Wales Fort on 29 June (pers. comm. from Bonnie Chartier to Rudolf Koes), and Parks Canada staff observed adults carrying food to a possible nest cavity on 5 July (Cam Elliott, Parks Canada, pers. comm.), several days prior to our observation. By backdating these observations with published accounts of this species' breeding ecology, we estimate the dates for the chronology of this nest shown in Table 1.

Our estimated breeding chronology, while conservative, does show an early June arrival on the breeding grounds at Churchill as suggested for *O. o. leucorhoa* in eastern Canada[4], though estimated egg laying, hatching and fledging dates are slightly later for this nest than accounts from nests in Rankin Inlet[6] and Baffin Island.[8] Despite subsequent visits to the area on 11 and 17 July (Cam Elliott, pers. comm.; Rudolf Koes, pers. comm., respectively), neither the adults nor any fledglings were observed, so it is unclear whether this nest was successful. Given that the young can disperse up to 70 m within the first 24 hours after fledging[1], it is possible that the birds had dispersed far enough

Date	Event	Rationale
11-Jul-06 & 17-Jul-06	observations by Parks Canada staff failed to locate adults or fledglings	
7-Jul-06	observation of nest with ≥ 2 nestlings estimated to be at least 8 days old*	*Assume hatch date on or before 29 June, as adults carrying food
5-Jul-06	observation of adults carrying food (Cam Elliott, Parks Canada)	
29-Jun-06	observation of adults carrying food by Allen and Della Wells (pers. comm. from Bonnie Chartier to Rudolf Koes)	12-14 day incubation period[1]
17-Jun-06	estimated date last egg laid	one egg laid every 24 h[1]
15-Jun-06	estimated first egg laid (2 egg clutch)	egg-laying commences 3 days after nest is constructed[7]
12-Jun-06	estimated completion of nest construction	2-7 day nest construction period[7]
10-Jun-06	estimated initiation of nest construction	female arrival 7 days after male[1]
3-Jun-06	estimated male arrival at breeding site	
31-May-06	observation by Erica Nol of male at Bird Cove near Churchill, MB	

Table 1 – Summary of estimated breeding chronology, with significant events and rationale for how dates were calculated.

away from the nest site that they may have gone unnoticed by observers on subsequent visits.

The western and southern range expansion of the Greenland race of Northern Wheatear in eastern Canada has been documented over many decades, though the underlying mechanism responsible for the expansion is still unknown. Recent climate warming, especially in arctic regions, may partially explain this observed range expansion. The western and southern coasts of Hudson's Bay are the last to become ice free in spring and are some of the earliest areas to freeze again in the fall.[2] Based on patterns of sea ice, the western and southern coasts of Hudson's Bay have been experiencing significantly earlier spring breakup and later fall freeze-up in recent decades.[2] This pattern of spring break-up and fall freeze-up does coincide with the recent range expansion in western and southern Hudson's Bay by the Greenland race of the Northern Wheatear, suggesting that the climate around Churchill, MB, has moderated enough in recent decades to permit successful breeding by this species. The slightly later breeding chronology of this nest versus nests in more northern portions of the breeding range, which have longer ice-free periods, may also support this suggestion.

The Greenland race of Northern Wheatear winters primarily in tropical Africa[5], and recent evidence suggests that, in fall, migrating birds may accomplish the transatlantic crossing from the east coast of Canada to the west coast of Africa in one direct flight of more than 4000 km[9]. The additional distance that birds breeding in western or southern Hudson's Bay would need to travel to reach the northern limit of their wintering grounds, makes this one of the greatest migrations known in passerine birds (in excess of 8800 km). Given the rapid rate of climate change in arctic regions, the Northern Wheatear may establish a completely circumboreal breeding distribution[8], making it important for observers to continue monitoring the potential range expansion into portions of northeastern Manitoba and northwestern Ontario, along with portions of the central Canadian arctic.

Acknowledgements

The authors would like to thank Cam Elliott, Rudolf Koes, and Erica Nol for access to unpublished observations. We also appreciate comments by the editor and an anonymous reviewer on an earlier version of this manuscript.

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COMMON RAVENS NESTING IN WINNIPEG, MB

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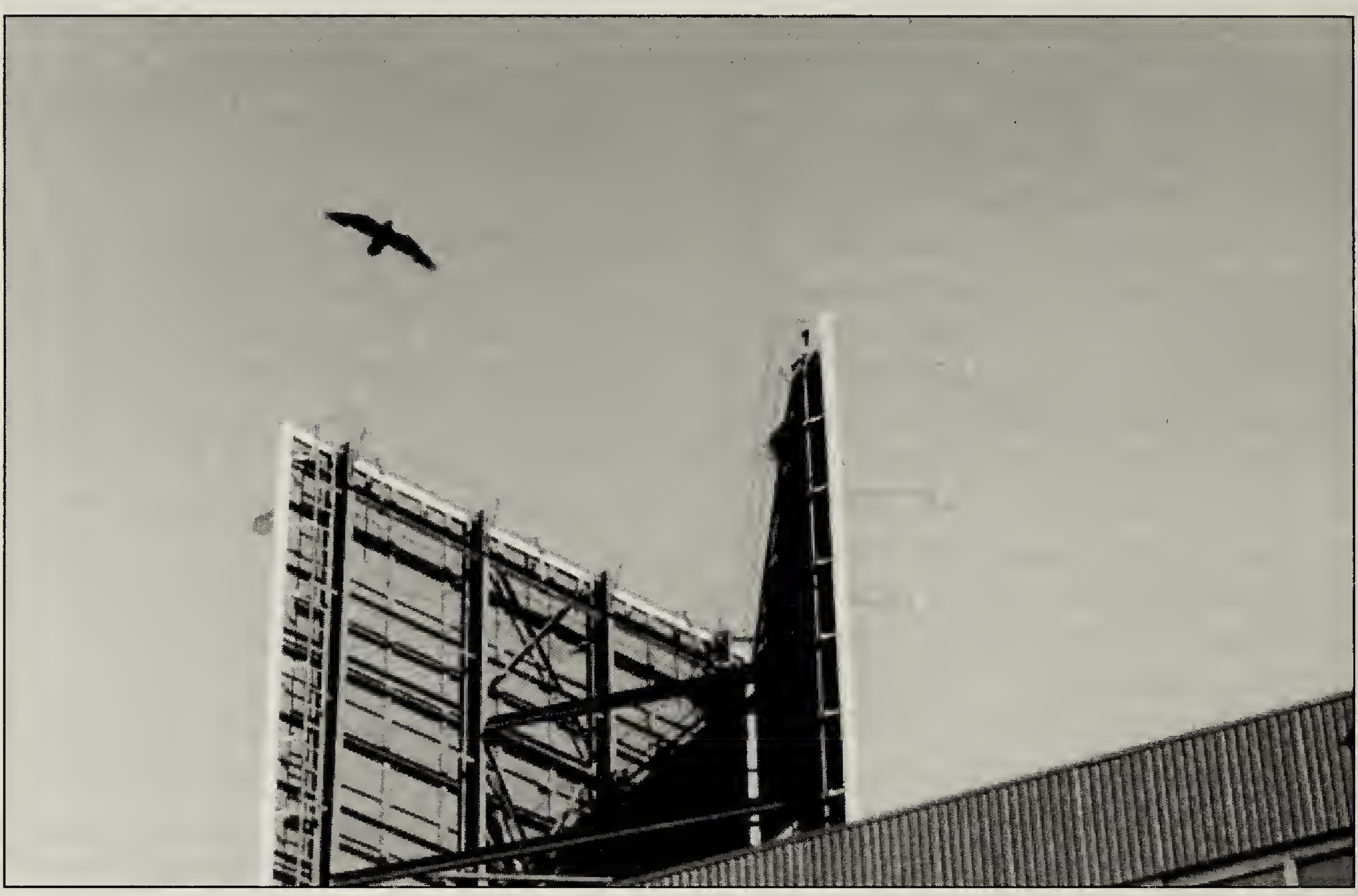

Figure 1. Raven flying near nest at top of right (eastern) side of V-shaped billboard facing Portage Avenue in Winnipeg, 16 May 2005. *Tom Reaume*

American Crows have been nesting in Canadian cities for decades but Common Ravens, the largest members of the Corvidae, are now only beginning to nest within the city of Winnipeg (pop. 668,000). There are previous reports of ravens attempting to nest in the downtown area of Winnipeg, but no specific locations are provided.[1] This is the first published account of a successful raven's nest within the city.

Casual observations in March of flying adult ravens, carrying bare deciduous branches/twigs in their bills led to locating two nests: one in 2005 and another in 2006. Each nest was built within a V-shaped advertising billboard (Figures 1 and 2) situated atop 3- or 4-storey, flat-topped, occupied commercial buildings along the south side of the 8-laned Portage Avenue. In both cases, the nest was toward the back of the wide part of the V and built near the top of a walkway of metal grating. This made the woven deciduous branches/twigs easy to locate through binoculars from the ground. The narrow, northern end of the V faced Portage Avenue.

The 2005 nest was located on a billboard at 570 Portage, at Langside Street (Figure 1). This nest was unsuccessful. Eggs may have been laid, but no young were observed in the nest. The 2006 nest was located on a billboard farther west, at 960 Portage Avenue at Lipton Street (Figure 2). This

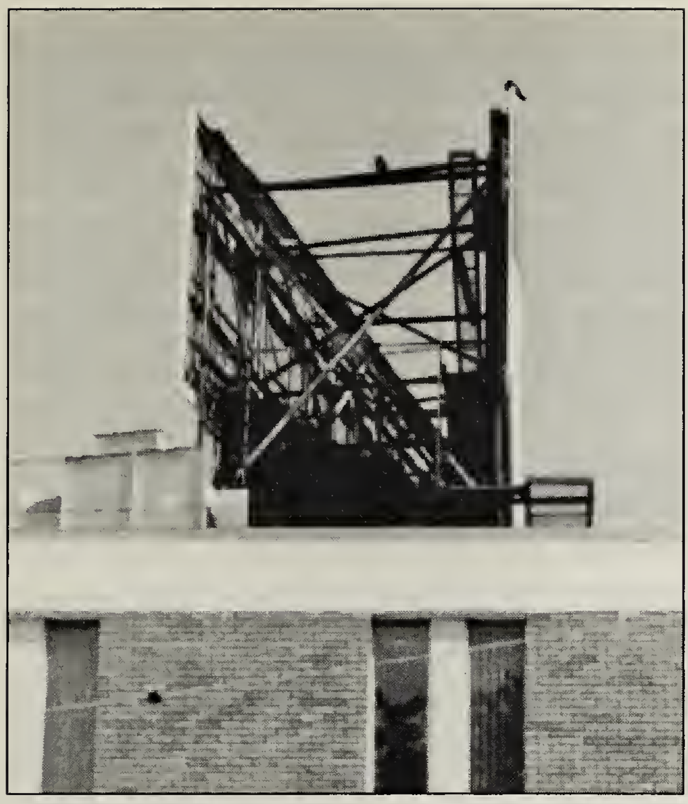

Figure 2. Two raven fledglings perched on V-shaped billboard on 22 May, 2006. The nest is near the top on the left (western) side. *Tom Reaume*

nest was successful. Six eggs were laid and five hatched (Viacom employee, pers. comm., April 2006). I observed three young ravens leaving this nest.

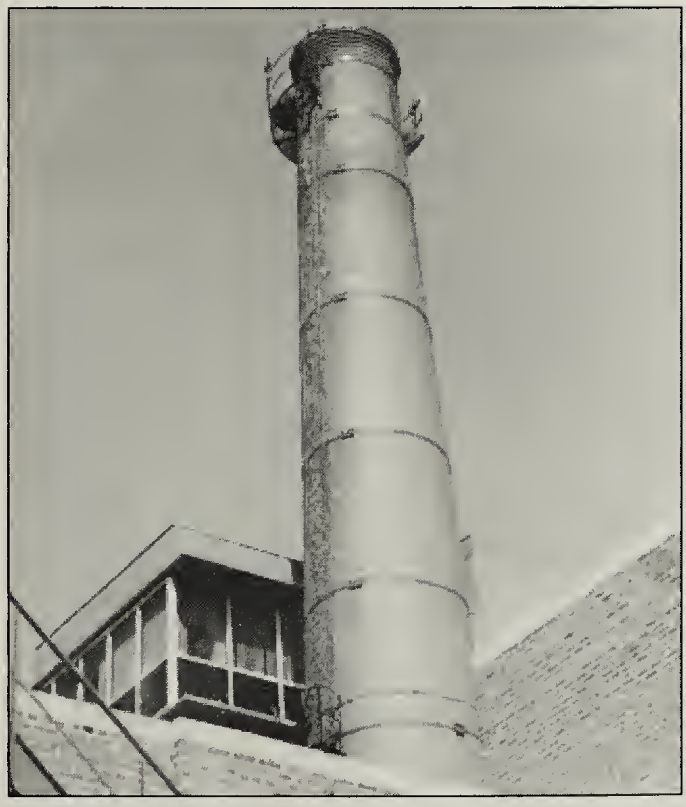

Figure 3. Nest of raven on metal walkway near top of a 37m tall chimney at Deer Lodge Centre, Winnipeg, 22 May 2006

Tom Reaume

A partial chronology of this successful nest in 2006 is as follows. On 19 April, the advertisement on the west (nesting) side of the billboard was changed. The pair of adults did not abandon their nest since it probably contained newly-hatched nestlings. On 2 May, begging calls by nestlings were heard when a parent arrived with food. The begging calls of young Common Ravens are audibly lower that those of American Crow nestlings. On 5 May, three darkly-feathered heads of nestlings were visible in the nest when an adult arrived with food. On 9 May, one dark nestling, with well-developed primary (wing) feathers, was perched on the southern rim of the nest. Its continuously open bill revealed a pink lining as it tried to keep cool in the noonday sun and 20°C temperature. On 18 May, in the late afternoon, two young ravens were perched at the southern end of the metal walkway several metres south of the nest. The third young remained in the nest. On 22 May, in the morning, two fledglings were perched on connecting steel beams between the two billboards (Figure 2). By 1400h, one young had flown down to the flat roof west of, and supporting, the billboard. Soon a second young raven dropped about 5 m to join the first young on the roof. On 4 June, in the morning, two young ravens were on separate rooftops within one block of the nest. The third young fed on a lawn. I approached it on foot to about 5 m before it flew to the roof of a home.

A second raven's nest was located in 2006 from directions provided by a friendly visitor at the billboard nest I was watching. This second nest was farther west, at 1209 Portage, at Woodlawn Street. It was built on the southern side of a metal walkway near the top of a 37 m tall chimney associated with the Deer Lodge Centre (Fig. 3). This nest was unsuccessful. In 2005, a nest was built on the northern side of the same walkway. It also was unsuccessful (Tab Harrop, pers. comm., 12 June 2006).

It was interesting to observe that the presence of Common Ravens appeared to deter Rock Pigeons from landing. However, once a billboard nest site is abandoned or its nestlings have fledged, the pigeons quickly return and begin reusing the structure for perching and roosting once again.

Post script: commercial interests seem to outweigh natural history ones when it comes to ravens nesting in Winnipeg. In October, a fake owl was placed on top of the billboard that housed the successful nest in 2006, and on a nearby billboard. In addition, the song of a distressed song bird can be heard coming from a small blue box on the first billboard.

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Editor's Note: Writing in 1977, Stuart Houston noted "Prior to 1875, ravens were present throughout the breeding season across the present prairie provinces, extending down into the Dakotas" (*Blue Jay* 35, p. 149), but they disappeared from the prairies with the demise of the bison. Urban Winnipeg seems to be one of the final frontiers in the raven's reoccupation of former range in southern Manitoba. This process began with the appearance of wintering birds in the southeast in the 1930s and the province's first nest record in what is now Whiteshell Provincial Park in 1942 *(The Birds of Manitoba)*. Extension of the breeding range beyond the southeastern boreal forest began in earnest around 1990. Near Winnipeg, nesting was recorded at Oak Hammock Marsh in 1994 and southwest of Oak Bluff in 1997 (R.F. Koes). Jack Dubois observed a nest, apparently unsuccessful, on a railway bridge near downtown Winnipeg in or around the year 2000. A sighting of juvenile ravens at the University of Manitoba campus in 2005 suggested successful nesting nearby (P. Taylor); perhaps other records will come to light following publication of this article.

* * *

Turkey Vulture with two of three Black-billed Magpies in the same tree, 20 km nw of Saskatoon, September 29, 2006. *George Tosh*

PRELIMINARY OBSERVATIONS ON THE POSSIBLE INFLUENCE OF TOXIC MINE WASTE ON BIRD POPULATIONS OF KISSISSING LAKE, MB

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Introduction

From 1928-1951, the Sherritt-Gordon mine operated at Sherridon in northern Manitoba, producing copper and zinc. Over the course of its life, the mine produced 166,093 tonnes of copper, 135,108 tonnes of 50% zinc concentrate and small amounts of silver and gold.[1] During this period, a large mine tailings pile (Figure 1) accumulated near Sherridon on the shore of Camp Lake (Figure 2). From its inception, the mine tailings pile has progressively acidified and has leached metals into adjacent Camp Lake and from Camp Lake to Kississing Lake. The latter is a large lake centred at 55°10'N and 101°20'W, within the boreal forest region of Manitoba and located east of Flin Flon. It has a surface water area of 275 km^2 and an irregular shoreline with many islands. The water from Kississing Lake flows north into the Churchill River.

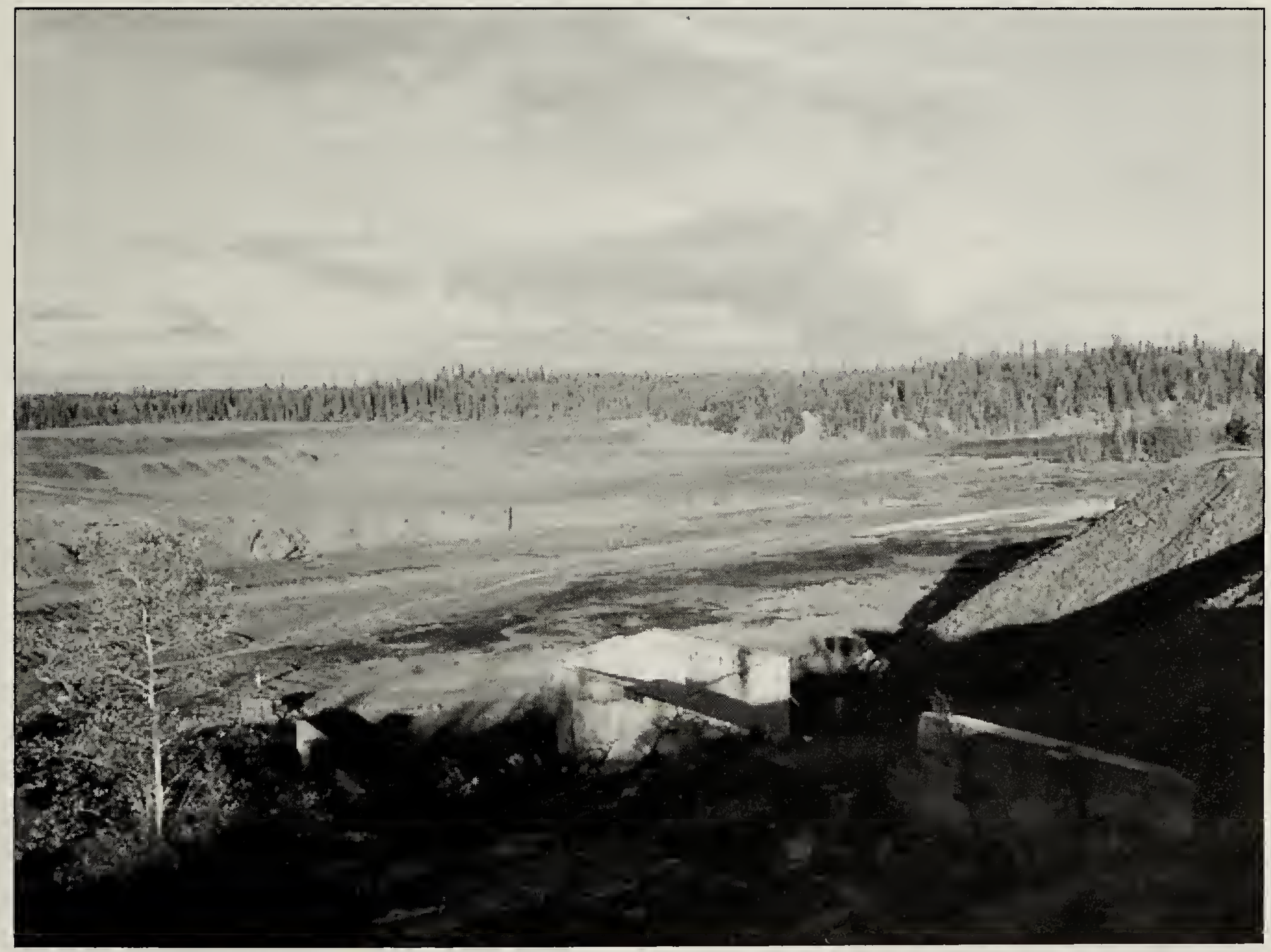

Figure 1. Sherritt-Gordon mine tailings pile, July 2005. The runoff from the pile collects on the right before it enters Camp Lake. Jon Gerrard

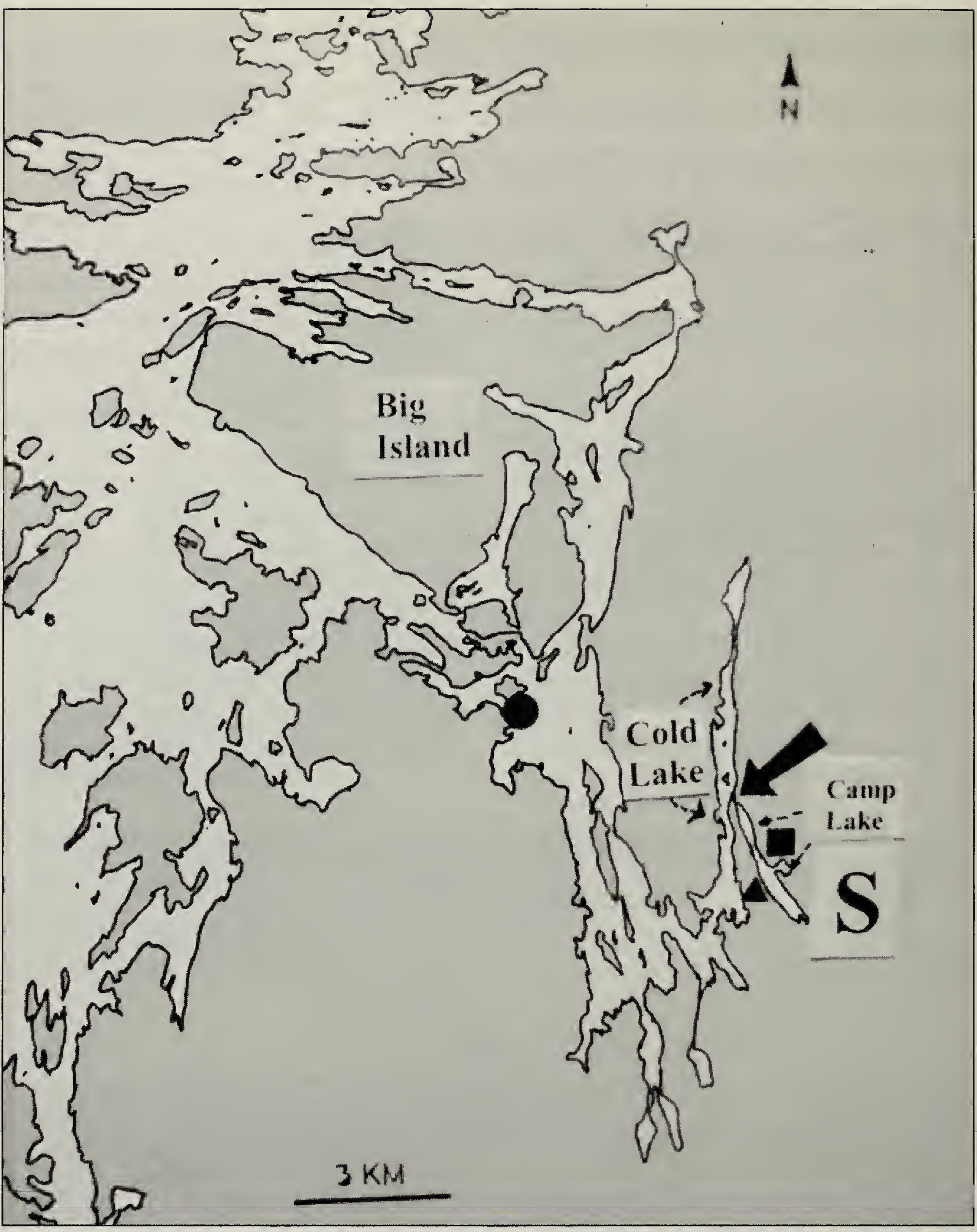

Figure 2. Southeast arm of Kississing Lake including the long bay named 'Cold Lake'. S = community of Sherridon; the arrow points to the site of the discharge from Camp Lake into Kississing Lake; ■ = Serridon mine tailings pile; ▲ = Kenanow Lodge and the small community of Cold Lake; ● = Kississing Lake Lodge

Little has been done to reduce the leaching of toxic metals from the tailings pile and they have leaked extensively into adjacent Kississing Lake. Indeed, as Moncour reports (p. v), "the annual loading of acid, sulfate, and metals from Camp Lake to an adjacent lake [Kississing Lake] are extreme."[1]

Studies of Kississing Lake completed in 2004 show that the impact of the toxic metals is now present at least 9 km from the site of the discharge of water from Camp Lake into Kississing Lake (Figure 3), and there is evidence of increased levels of zinc and copper extending 20 km from the site.[2] What is particularly disturbing is that "sediment grabs collected throughout Cold Lake, and further out into Kississing Lake toward [Kississing Lake] Lodge contained no or very few macroinvertebrates that were observable with the naked eye. Molluscs, including piisid and sphaerid clams, amphipods, chironomid larvae, large oligochaetes, and other commonly encountered benthic fauna were conspicuously absent in sediment samples from Cold Lake and the lower portion of Kississing Lake toward the junction with Cold Lake" (p. 170).[2]

The report continues (p. 170): "The lack of benthic invertebrates in Cold Lake and Kississing Lake as far away as [Kississing Lake] Lodge and beyond was also evident in nearshore [within 10 meters of the shoreline] areas. Reconnaissance observations of the littoral area along the shore of Sherlett Lake and other local reference lakes revealed an abundance of bivalves, including unionids, at least three gastropod species, crayfish, larval insects, leaches, juvenile and small fish. Molluscan taxa were not observed in nearshore areas of Cold Lake or Kississing Lake south of the Lodge."[2]

It is noteworthy that concentrations of cadmium, copper, and zinc found in sediments in the part of Kississing Lake near the outlet from Camp Lake were all found to exceed the Probable Effects Level guidelines for freshwater life protection provided by the Canadian Council of Ministers of the Environment for acceptable contaminant concentrations in the environment.[2] In addition, concentrations of arsenic, chromium and mercury in the sediments of this region of Kississing Lake exceeded the lower Interim Sediment Quality Guidelines for freshwater.[2]

In view of the extensive evidence of toxicity of zinc and copper in the sediments on macroinvertebrates, we looked to see if there were effects on bird species in the area, in particular on bird species that feed on fish and nearshore invertebrates.

Methods

A shoreline survey for waterbirds was conducted from July 25-27, 2005 using techniques developed and applied on Besnard Lake, Saskatchewan from 1976-2005.[3,4] Besnard Lake is a boreal forest lake with many similarities to Kississing Lake. It is located at 55°20'N, 106°00'W, has a water area of 177 km^2 and, like Kississing Lake, has an irregular shoreline with many islands. Also similar to Kississing Lake, Besnard Lake is located at the southern boundary of the Churchill River Upland.[6] Water from both lakes flows north into the Churchill River. Both are excellent fishing lakes, and both have two fishing lodges.[7]

The shoreline of Kississing Lake in the region closest to the discharge from Camp Lake into Kississing Lake was divided into 8-km sections. Fourteen of 27 sections were surveyed (one of these only partially). Censuses were conducted with three observers in a motorized boat traveling 20-100 m from shore at a speed of 8-16 km/hr. Censuses were conducted during daylight hours when winds were less than 32 km/hr and visibility was good. White Pelicans were only counted if the birds were perched on a rock, swimming in the water, or flying low over the water. Pelicans flying high over the lake were not counted, as they could

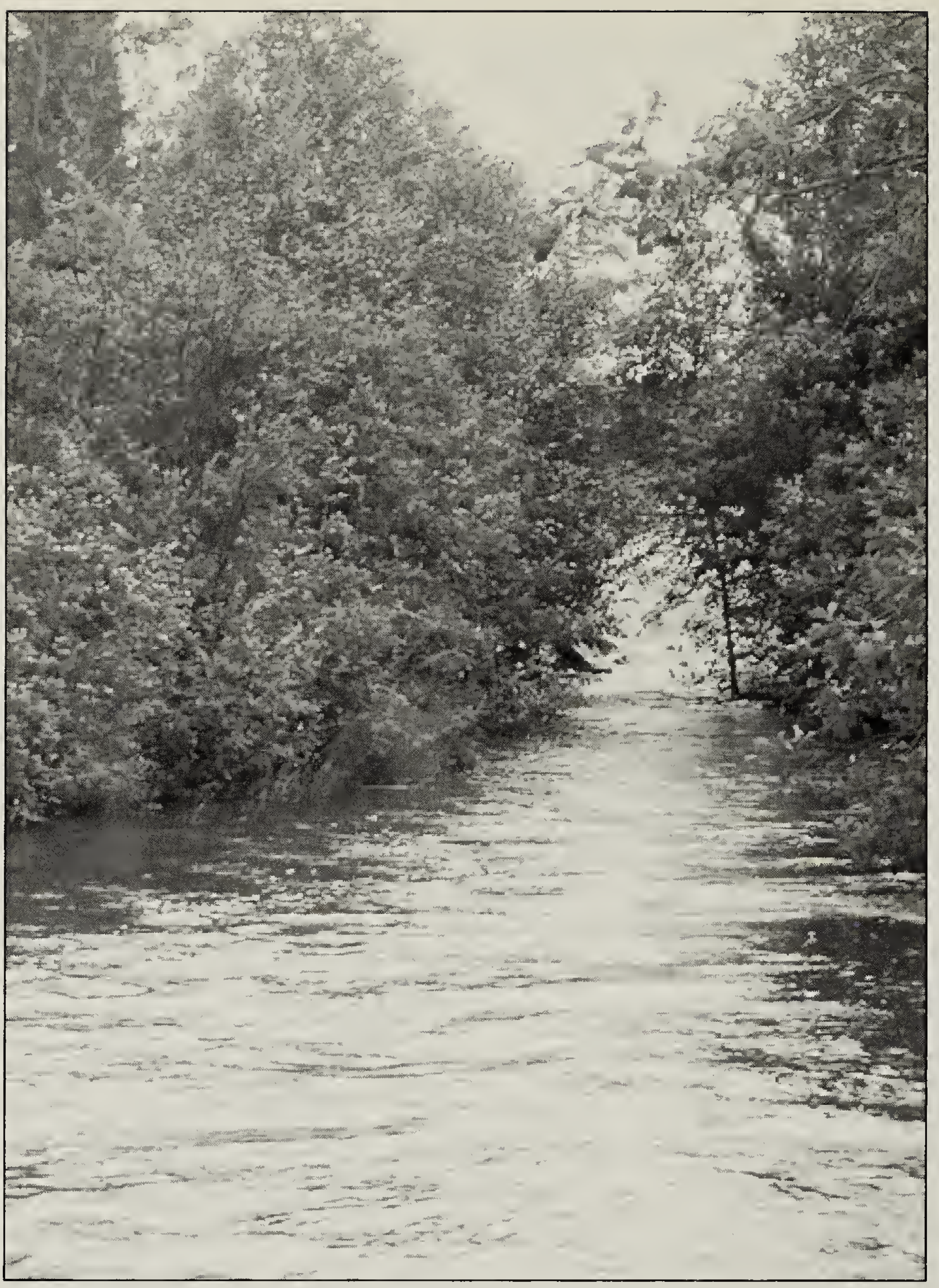

Figure 3. The stream that flows from Camp Lake into Kississing Lake, late July 2005. *Jon Gerrard*

have been traveling some distance rather than feeding in that section of the lake.

For each section, the distance by boat from the Camp Lake discharge into Kississing Lake to the mid-point of the section was measured and recorded. Trends for an increase in bird populations as the distance increased from the site of the discharge of Camp Lake into Kississing Lake were analyzed using a correlation coefficient.

Results

For eight species of water-associated birds, there was an increase in the number of birds seen per section the farther the section was located from the outlet of Camp Lake into Kississing Lake (Table 1). This was particularly noticeable for six species. Mergansers (Red-breasted and Common mergansers combined) and Spotted Sandpipers were absent from the sections of Kississing Lake adjacent to the Camp Lake discharge, and increased in numbers farther from this site. The pattern was similar for pelicans. For pelicans, this trend was stastitically significant ($r = 0.63$, $p<0.05$). Bald Eagles, Common Loons and white-headed gulls (Herring and Ring-billed gulls combined) were present in sections near the Camp Lake discharge, but increased in numbers the farther the section was from the site. For adult and immature Bald Eagles combined, this increase was significant ($r = 0.66$, $p < 0.05$). Similarly, for white-headed gulls the increase was significant ($r = 0.54$, $p<0.05$). No successful Bald Eagle nests were found closer than 12 km from the Camp Lake discharge site, however, an empty nest present at 7.5 km may well have been built in the last ten years. Double-crested Cormorants and Common Terns were absent near the discharge

Table 1: Number of birds seen per 8 km of shoreline on Kississing Lake (KL), and comparison with Besnard Lake (BL)

	KL	KL	KL	All KL*	All BL**
Distance from Camp Lake discharge	< 5 km	≥5 km, ≤11 km	> 11 km		
No of sections	3	6	5	14	25
Bald Eagles - adults	1	0.8	2.8	1.5	1.4
- immatures	0	0.2	1.5	0.54	0.24
- adults and immatures	1	1	4.3	2.0	1.64
- empty nests	0	0.2	0.4	0.2	0.4
- nests with young	0	0	0.4	0.14	0.3
Common Loons - adults	2.7	7.5	6.8	5.9	2.2
- young	0.7	1	0.5	0.77	0.64
Pelicans	0	0	3.2	1.0	2.1
Mergansers	0	1	3.4	1.77	4
Common Goldeneye	0	0	0	0.0	3.4
Belted Kingfisher	1.3	1	1	1.08	0.6
White-headed Gulls	5	6.3	22	10.8	6.9
Mallards	2.7	0.2	0.3	0.8	0.4
Spotted Sandpipers	0	0.7	2	0.8	0.8
Double-crested Cormorants	0	0	2.5	0.8	0.3
Common Terns	0	0	1.3	0.4	0.2

*- means all 14 KL sections surveyed; ** means all 25 BL sections surveyed

site, but present farther away. Belted Kingfishers and Mallards were both present in the section closest to the discharge site. Belted Kingfishers were found in a similar density farther away, while Mallards were at a lower density.

Table 1 compares sections on Kississing Lake which were close to the discharge from Camp Lake, to those 5-10 km away, to those more than 11 km away, and to 8-kilometre sections surveyed with a similar method on Besnard on July 4-11, 2005. In comparison to Besnard Lake, the number of mergansers, pelicans and Spotted Sandpipers is lower near the Camp Lake discharge into Kississing Lake as is the number of Bald Eagle nests with young. In contrast, the number of loons near the Camp Lake discharge was not lower than Besnard Lake sections, even though it was lower than Kississing Lake sections further from the discharge site. No Common Goldeneye were seen on Kississing Lake, while these ducks were present at an average of 3.4 per 8-km section on Besnard Lake.

Discussion

We suspect that the decrease in the number of Bald Eagles, White Pelicans and gulls close to the discharge site from Camp Lake to Kississing Lake and the absence of mergansers, Double-crested Cormorants and Common Terns near the discharge site is related to absence of prey species close to the site and/or the toxicity of prey species close to the site.

For mergansers, the reason for their absence near the discharge site may be that mergansers feed primarily close to the shoreline on small fish and invertebrates, which are severely affected by the toxic mine wastes. In contrast to mergansers, loons were present near the discharge site. Loons primarily feed in deeper water, and there may be enough movement of fish from other parts of Kississing Lake, and/or through streams from adjacent lakes, into such deeper waters areas.

Bald Eagles feed on larger fish. The relative decrease in the number of Bald Eagles near the discharge site may be a reflection either of decreased numbers of large fish in this area, or possibly a result of an accumulation of toxic metals. We also found an absence of Bald Eagle nests with young in the region of Kississing Lake adjacent to the Camp Lake discharge. This observation is of concern as it suggests the possibility of a build up of toxic metals in the bodies of the eagles which then interferes with reproduction, as has been found for mercury.[5]

The absence of Common Goldeneye on Kississing Lake is of concern, in that these birds eat invertebrates in the nearshore regions of the lake. It is possible that they are affected at a larger distance from the Camp Lake discharge than the other species, since we were told by Tim Matheson that goldeneye are seen regularly on other parts of Kississing Lake.

While the observations reported here suggest that there have been adverse effects of the toxic mine wastes on bird populations, as might be predicted from the studies of fish and invertebrates, the results will need to be confirmed and extended in future years.

Acknowledgements

We thank Tim and Val Matheson, our hosts while we were on Kississing Lake. We are also grateful for the hospitality we received from Mayor Nick Benyk and his council while we were in Sherridon.

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"...a blue-throated hummingbird, in active flight around its Southwestern habitat, has a pulse rate of nearly 1,200 beats per minute. A turkey's heart barely exceeds 90."
Scott Weidensaul, *The Birder's Miscellany*, p.14

SASKATCHEWAN TURKEY VULTURE NESTS, 1896-2002

C. STUART HOUSTON, 863 University Drive, Saskatoon SK S7N 0J8

Turkey Vulture *Brent Terry*

Mossman reviewed the breeding records available for the midwestern and Great Plains states, and classed Turkey Vultures as "local and uncommon breeders in the Dakotas."[6] As of 1991, there were six breeding records for North Dakota and two for South Dakota, one of which was a pair nesting in a deserted house.

By 1969, 13 Turkey Vulture nests had been reported for Saskatchewan, which is at the northern edge of the species' range.[4] The nine that were specifically described were on the ground: four in caves, four in or under large logs, and one beneath a large rock.

This article presents information on 30 additional Turkey Vulture nests in Saskatchewan. Three of these are based on 1890s museum egg records not previously analyzed. An open-sided nest found on the ground in 1959 and not reported earlier, is also included. The others are nests found after the 1969 report and up until 2002, the first year that Turkey Vulture nests were found in the Saskatoon Bird Area.[5] They are grouped below according to nest location: 11 nests in caves; 4 nests in brush-piles and thick tangles of dense vegetation; 11 nests in deserted farm buildings.

Egg sets in museums:

1896, June 8. Pasqua Lake, under fallen tree on side of hill at west end of Pasqua Lake. Two fresh eggs, now in Western Foundation of Vertebrate Zoology, Camarillo, CA, collected by Edward Arnold.

1898, May 17. Ten km south of Moose Jaw. Egg, now in National Museum of Canada, Ottawa, collected by H. Roy Ivor.

1898, May 22. Moose Jaw, under bushes on side of hill. Two fresh eggs, now in Western Foundation of Vertebrate Zoology, Camarillo, CA, collected by Edward Arnold.

Nest on ground, open on one side:

1959, June 10 and 12, Jabe Lake, Moose Mountain Provincial Park, nest with one egg on ground, completely open on one side but dense cover made nest and egg invisible from above. On island that also contained cormorant nests in trees, found by R.W. Fyfe (R.W. Fyfe, pers. comm.) and Fred Lahrman.[7]

Caves:

1970. Chitek Lake, cave occupied by vultures on sandy south shore of island, found by Frank Martens and Les Arndt (Riome footnote to Schmidt [8]).

1972, June 18. Southwest of Eston, two tiny young in cave in river bank. They were banded on July 16.[8]

1974, July 14. Northwest of Ravenscrag, cave in conglomerate cliff on Saville ranch, two young banded by the author.

1978, May 6. Canopus, pair present at cave used by vultures in previous years, found by Tom Sadler (pers. comm.).

1980, July 11. Canopus, one young in cave in sandstone outcrop. On August 7, the young was found dead 20 m down the hill below the cave by George F. Ledingham and Gary G. Anweiler (pers. comm.).

1980, August 13. Adams Lake, Cypress Hills, two young in cave in conglomerate cliff, 8 feet below top of cliff, photographed by Lloyd Thiele. Both young flew out of the nest when it was approached on 16 August by G.F. Ledingham (pers. comm.).

1984, August 12. Ministikwan Lake, two young in wave-excavated cave under roots of large dead tree on shore, found by Frank Scott and Brad Tokaruk.[9]

1989, July 11. Roan Mare Coulee, Big Muddy, two young in small cave, one of them photographed by Tom Lichter.[2]

1989, August 25. Big Beaver, two young perched above presumed cave that eluded detection earlier near Marshall Cemetery.[2]

1992, July 5. Ravenscrag, two young in cave on Saville ranch, sighted by Jim Saville (same cave as in the 1974 record above (pers. comm.)

1996. Mankota Community Pasture, south of Mankota, young last seen in nest cave about 1996 by Dwight Gavelin, pasture manager (pers. comm.).

Brush-piles:

1976. West of Edam, nest with one young in large brush-pile, photographed by Ken A. Smith.[10]

1976, August 10. Two miles east of Mervin, one large young in bulldozed brushpile, section 26-50-22 w3, found by Keith Roney (pers. comm.).

1978. Moose Mountain Provincial Park. “An active nest was located in 1978.”[11] Stelfox (pers. comm.) suspects this record was obtained by Terra Environmental Consultants Ltd., when in 1978 they made a 120-page wildlife inventory report preparatory to the 1980 provincial park master plan study.

1980. Greenwater Lake Provincial Park, two nests under brush-piles, both found by Odd Steiestol.[3]

Deserted buidings:

1982, July. Outside north edge of Moose Mountain Provincial Park, section 3, township 11, range 2 w 2, three miles east of Highway 9, on land of Claire Rogers, accountant at Kenosee Lake Provincial Park. Two young in empty granary, when visited by conservation officer Fred Baran (pers. comm.). Previously unreported, this record now rates as the first vulture nest in a building in Saskatchewan.

1983, July 7. 35 km northeast of Biggar, two nestlings in upstairs of deserted house, found in late June by Jack de Bussac and Norman Smith.[12]

1984, June 15. North of Preeceville and west of Lady Lake, two eggs in upstairs room of deserted house on wildlife lands. Only one nestling was present on 17 July.[1,3]

1984, July 24. Boggy Creek valley near Runnymede, two young in manger of old barn, found by Bernard de Vries (pers. comm.).

1987, August. Southwest of Swan Plain post office, two young in attic of deserted house, found by Barry and Karen Griffith.[3]

1990, mid-June. Southwest of Porcupine Plain, nest with two eggs in deserted house, found by Ken Wallin.[3]

1990 (or possibly 1989). Preeceville, two young in deserted log building 3 km north and 1 km mile east of Preeceville, found by Leona Pollock (pers. comm.).

1999. Eight km south of Grayson, single young in deserted building. Apparently deserted by its parents, it was fed by Pat Taillon until it flew in October (pers. comm.).

2000 and 2002. Loch Lomond near Preeceville, two young raised each year in deserted house found by Dave Weiman (pers. comm.).

2000, July. Sixteen km north of Lilac siding, Turkey Vulture pair regularly flying in and out of deserted one-story house, observed by Walter Jess (pers. comm.).

Acknowledgments

I thank the many observers who have contributed to these records over many years.

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INSECTS

CHECKLIST OF SASKATCHEWAN MOTHS: PART 17-GEOMETRIDAE (3), ALSOPHILINAE, GEOMETRINAE AND STERRHINAE

RONALD R. HOOPER, Box 757, Fort Qu'Appelle, SK S0G 1S0

This is a continuation of the list of Saskatchewan geometrid moths. The first geometrid article was published in *Blue Jay*, Volume 64, Number 2.

Unless otherwise indicated, all the species are represented in the Royal Saskatchewan Museum collection in Regina. The species are arranged according to the website of Jim Troubridge and Don Lafontaine, The Moths of Canada,[9] with updates to 2006 provided to the author by Greg Pohl. This website also has colour photographs of the moths. McGuffin's well-illustrated *Guide to Geometridae of Canada* covers the subfamilies covered here.[5,6] This reference is the source of some of the information presented here, but the preferred food plants listed are primarily based on Prentice.[7] The common names that are used are mostly according to J. R. J. Llewellen Jones and C. V. Covell, Jr..[1,4] Recent scientific name changes are according to M. J. Scoble.[8]

In this article the size, and early and late dates of Saskatchewan specimens are given. Some of the recorded food plants are mentioned. Abbreviations: s=south, n=north, w=west, e=east, CNC=Canadian National Collection in Ottawa, RSM=Royal Saskatchewan Museum in Regina.

Subfamily ALSOPHILINAE (OENOCHROMINAE)

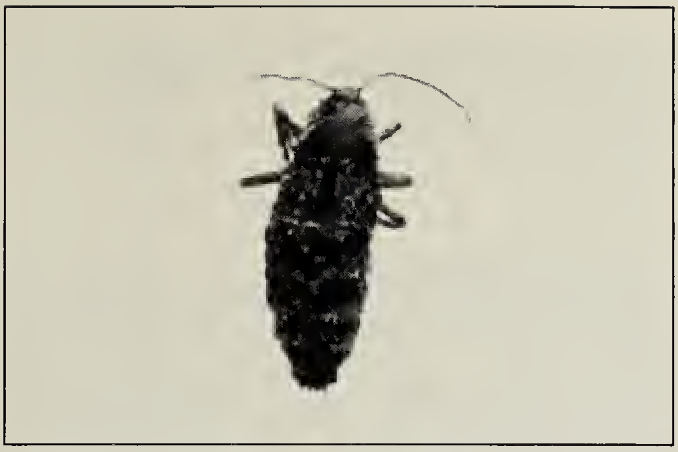
Our only species of this group is the Fall Cankerworm. The male flies late in the fall. The wingless females climb up the tree trunks to lay their eggs on the upper trunks or branches. These eggs hatch in the spring and the young feed on the leaves. At maturity, the larvae drop to the ground and spin cocoons in the soil from which the adults emerge in the fall.[3] (Recent research suggests that this subfamily be moved to Subfamily Ennominae as Tribe Alsophilini.[10])

Fall Cankerworm *Alsophila pometaria* (Harr.) - S. Sask., n. to Cumberland House and Prince Albert. (24-33 mm - males) (Sept. 21-Nov.8, April 6-June 13 - spring adults are rare) Reported on maple and elm.

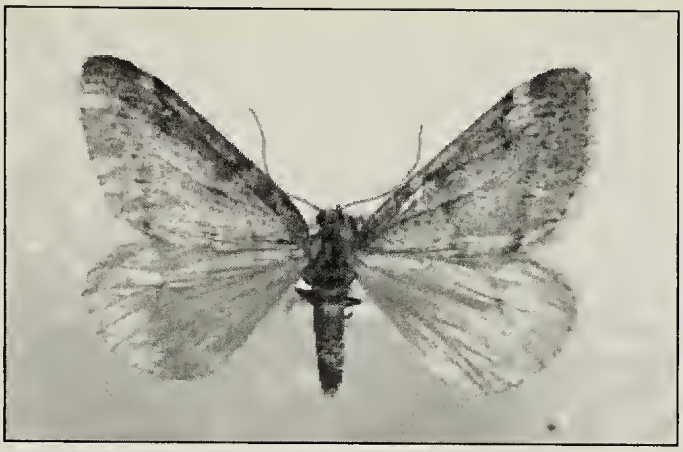
Subfamily GEOMETRINAE (Emeralds)

Moths of this group are rather small(18-30 mm). Most of them are a beautiful pale green with two sets of white lines crossing both wings. Most of the males have pectinate antennae in order to pick up more readily the scent of the females. The adults are mostly nocturnal except for the Plain Emerald.

Looped Emerald *Nemoria unitaria* (Pack.) - Central Sask., n. to Loon Lake;



Female Fall Cankerworm
RSM collection, Emersen Ziffle



Male Fall Cankerworm
RSM collection, Emersen Ziffle

s. to Fort Esperance and Fort Qu'Appelle. Also in Cypress Hills Provincial Park (Centre Block). (25-30 mm) (July 6-19) Reported on currant and gooseberry. See inside back cover, top photo.

White-faced Emerald *Nemoria mimosaria* Gn. - Central Sask., n. to Erwood; s. to Roche Percee and Avonlea. (24-26 mm) (June 4-26) Reported on birch, fir and tamarack.

Wavy-lined Emerald *Synchlora aerata albolineata* Pack.- S. Sask., n. to Somme, Waskesiu area and Loon Lake. (18-30 mm) (June 28-Sept. 12) Reported on aster, blazing star, black-eyed susan, sunflower and raspberry.

Two-lined Emerald *Synchlora bistriaria* (Pack.) - Sw. Sask., e. to Fort Qu'Appelle area; n. to Saskatoon area. (22-28 mm) (July 11-28) Reported on flowers of sunflower, goldenrod and rose.

Blackberry Looper Moth *Chlorochlamys chloroleucaria* (Gn.) - Roche Percee, Estevan and Fort Esperance. (18-20 mm) (June 29-July 1) Reported on flowers of goldenrod and yarrow.

Plain Emerald *Mesothea incertata* (Wlk.) - Throughout Sask.(18-20 mm) (May 14-June 29) Reported on bog myrtle, willow, hawthorn and buffaloberry.

EXPECTED SPECIES

Red-fronted Emerald *Nemoria rubifrontaria* (Pack.) - E. Canada, w. to Alberta. Reported on bog myrtle.

Badland Emerald *Dichorda rectaria* (Grote) - N. to Milk River, Alberta. Collected by M. Conrad, June 25, 1979. The specimen is at the RSM in Regina. This is the first report of this species for Canada. Previously it was reported only as far north as Slope County, North Dakota.[2]

Subfamily STERRHINAE (Waves)

These moths are quite small (14-26 mm) and dull coloured. Both wings are crossed by dark wavy lines, giving them the common name "the waves." The beautiful Chickweed Moth is an exception, being yellow with the wings crossed by reddish lines (see inside back cover, middle photograph). The Pearl-grey Wave of birch woods has a small round circle on each wing. The hind tibiae of the males usually have a hair brush or spur.

Frosted Tan Wave *Scopula cacuminaria* (Morrison) -Trossachs and Buffalo Pound Provincial Park. (16-22 mm) (June 20-July 8) Reported on dandelion and lettuce.

Large Lace-border
RSM collection, Emersen Ziffle

Large Lace-border *Scopula limboundata* (Haworth) - S. Sask., n. to Gordon Lake (n. of Pinehouse). (22-26 mm) (June 20-Aug. 7) Reported on elm, knotweed and cherry.

Pointed-winged Wave *Scopula ancellata* Hulst - St. Victor and Rockglen. (22 mm) (June 30-Aug 14)

Ochreous Wave *Scopula fuscata* (Hulst) - Cypress Hills. (24 mm) (June 14)

United Wave *Scopula junctaria* (Walker) - S. Sask., n. to Sturgeon Landing and Buffalo Narrows (22-26 mm) (May 27-Aug.3) Reported on elm, stitchwort and clover.

Four-lined Wave *Scopula quadrilineata* (Packard) - Greenbush and Waskesiu Lake (21 mm) (June 24) Reported on clover.

Arctic Wave *Scopula frigidaria* (Möschler) - N. Sask., s. to Preeceville and Harlan (20-23 mm) (June 18-July 7)

Soft-lined Wave *Scopula inductata* (Gn.) - Throughout Sask. (23-25 mm) (May 27-Sept. 12) Reported on sweet clover, aster and cherry.

Magnet Moth *Scopula sentenaria* (Geyer) - S. Sask., n. to Swan Plain, Candle Lake and Harlan area (22-25 mm) (May 27-July 3)

Dark-ribboned Wave *Leptostales ferruminaria* (Zeller) - S. Sask., n. to Tantallon, Fort Qu'Appelle and Douglas Park (14-17 mm) (May 8-Aug.1)

Pearl-grey Wave *Cyclophora pendulinaria* (Gn.) - N. Sask., s. to Swan Plain area, Prince Albert area and Harlan area; also at St. Victor (20-24 mm) (June 8-Aug. 13) Reported on birch, alder and willow.

Rough-winged Wave *Idaea rotundopennata* (Packard) - Throughout Sask. (19-23 mm) (June 12-July 16) Reported on knotweed.

Chickweed Moth *Haematopis grataria* (Fab.) - S. Sask., n. to Indian Head, Saskatoon area and Macklin area (21-26 mm) (June 27-Aug. 13) Reported on knotweed. (See inside back cover, middle photograph.)

Acknowledgements

I thank Klaus Bolte of Ottawa for checking the identification of most of our geometrid species. I also thank Greg Pohl of Edmonton for checking this manuscript and giving helpful suggestions.

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NOTES AND LETTERS

FRANKLIN'S GULLS KILL WOUNDED INDIVIDUAL

On a beautiful September day about 15 years ago, I was watching flocks of Franklin's Gulls feeding on grasshoppers and mice while I was summerfallowing, about 5 miles southwest of Kyle, SK. One gull struck an overhead power line and fell to the ground. It walked around with its broken wing hanging out painfully. Within seconds, other gulls spotted this situation and immediately attacked and killed the wounded bird. Then they left it in the field and went about their regular routine of soaring and feeding. Could this have been a case of mercy killing?

- *Cameron Brose*, 627 Advent Bay, Calgary, AB T1X 1N8

PAINTED TURTLES IN WASCANA LAKE

The Painted Turtle shown in the inside back cover was photographed on the south shore of Spruce Island in Regina's Wascana Lake on August 25, 2006. On one hot afternoon in 2006, I saw eight turtles sunning themselves in this area. It surprised me to see so many turtles because three years ago the lake was totally dug out and no turtles could have survived that event.

- *Diether Peschken*, 2900 Rae Street, Regina, SK are S4S 1R5.

Editor's note:
Painted Turtles are native to southern Saskatchewan and commonly found in farmyard dugouts, sloughs and areas of quiet river water. Although turtles would have been impacted by the dredging of Wascana Lake, these reptiles do move to colonize new areas. They are also frequently relocated by people releasing pets or helping females across roads in the spring when the animals are looking for nest sites.

GREAT HORNED OWL LONGEVITY RECORD FOR SASKATCHEWAN

On September 7, 2000 an injured adult Great Horned Owl was found on the southeast edge of Saskatoon by Margaret Fisher. It was recovered in the same latitude-longitude block in which it had been banded. She brought the injured owl, which had a bloodied face, to the SPCA in Saskatoon. It in turn was forwarded to Colette Wheler at the Western College of Veterinary Medicine in Saskatoon. After careful examination, its injuries were deemed so severe that the bird was euthanized that same day. The bird was banded (608-08252) so Stuart Houston, a local and avid bird bander, was contacted. He in turn asked Ursula Banasch of the Canadian Wildlife Service in Edmonton to check her records for the band number and identify where, when and who banded the bird. She contacted me about this bird as I had banded it on 1 June, 1977. The owl was one of a family of three young Great Horned Owls banded on the southeast edge of Saskatoon about 1 mile east of Highway 11 (Banding records indicate location as lat-long block 520-1063).

The young owl was banded in the nest and would have been about one month old at the time. Therefore, on the date the bird was brought into the veterinary clinic, it would have been 23 years and 4 months of age. The oldest Great Horned Owl on record for Saskatchewan was a bird banded by Stuart Houston which was 20 years and 8 months old at its death[1] and the oldest North American Great Horned Owl was a minimum of 28 years and 7 months at the time of its death[2,3].

The age of this owl banded on the outskirts of Saskatoon would rank it as the second oldest Great Horned Owl recorded for North America and the oldest bird recovered to date in Saskatchewan. Even though this owl was old, it had not dispersed far from the nest site where it had fledged. This record shows that when provided with suitable habitat, some birds will live long and healthy lives.

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- *Gerard W. Beyersbergen*, Canadian Wildlife Service, Edmonton, AB

BIRDS OF A FEATHER, PLUS ONE

A few years ago a neighbour of mine, Gordon Fox, informed me that a flock of pigeons had made their home in a machine shed, measuring 28' x 32', on a vacant farm that he was renting, and living in the same building was a Great Horned Owl.

I have raised pigeons since 1932 and my experience has been that pigeons will soon abandon any building if Great Horned Owls gain access. On opening the door to my neighbour's shed, the first thing I saw was a Great Horned Owl sitting on a rafter and a pigeon no more than three feet from it. The pigeon was more perturbed by my presence than by its proximity to the owl. On investigating further, I found 78 pairs of wings from pigeons that had been consumed by the owl, and still the pigeons accepted its presence.

This was hard to understand, but perhaps, in this situation, the owl was a quiet presence that the pigeons had come to accept. The shed had no windows; the entrance by owl and pigeons had been through the roof, where shingles had blown off. The hole where the owl got in measured approximately 9" x 9". The owl is a night hunter, rarely killing in daylight. The pigeons had nests on shelves where parts for machinery were stored, so the main victims would be males and unmated birds. The owl is almost soundless in flight, and when it seized a bird with its powerful talons, death would have been instantaneous and quiet, as pigeons do not give loud cries of distress.

Having had wounded owls and fed them, I have learned something of their habits. One winter I had a Snowy Owl with an injured wing and fed it mice, magpies and sometimes a beheaded pigeon. When fed a pigeon, if the owl was hungry, it consumed the entire bird, including most of the body feathers, leaving the flight and tail feathers, and the keel or breast bone. Even the legs and feet were swallowed. Then it did not eat for two or three days, when it would disgorge large pellets and be ready to eat again. Assuming the Great Horned Owl ate a pigeon every three days, this owl must have been there for seven months.

- *Sig Jordheim*, Box 544, Kyle, SK S0L 1T0

CABBAGE WHITE BUTTERFLIES IN REGINA

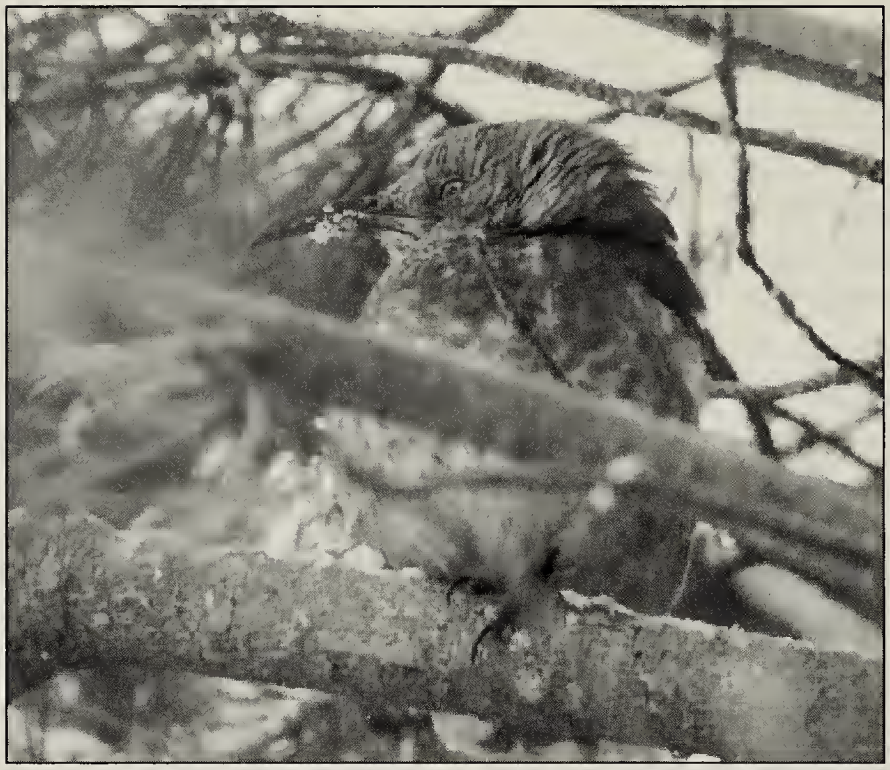
Beginning on August 10, 2006, I noticed unusually large numbers of Cabbage White butterflies in our back yard in south Regina. I estimated 400 butterflies within 10 minutes. Similar numbers were observed in Wascana Park in Regina for 10 days (over 1000 individuals in 20 minutes). Numbers gradually declined after 10 days. I did see them regularly in much smaller numbers until the last one, on October 6. I am sure untold millions of these butterflies were killed on the highways. As I wrote this note, there were still dozens of Cabbage White butterflies that could be counted in a few minutes fluttering about in the back yard, visiting our flowering plants. In sufficient numbers at the caterpillar stage, cabbage white butterflies are considered pests of cultivated members of the mustard family such as cabbage and radishes.[1]

[1] LAYBERRY, R.A., P.W. HALL, and J.D. LAFONTAINE. 1998.The Butterflies of Canada. University of Toronto Press; Toronto, ON.

- *Robert Warnock*, 3603 White Bay, Regina, SK S4S 7C9. E-mail: warnockr@accesscomm.ca

Cabbage White butterfly in Saskatoon, 13 August 2006 *Don Buckle*

CURVE-BILLED THRASHER AT FEEDER IN DALMENY, SK



Curve-billed Thrasher at Dalmeny, December 5, 2006 *Nick Saunders*

After a 'tip off' from Trevor Herriott that a possible Curve-billed Thrasher was coming to a feeder owned by David and Carol Fraser in Dalmeny, Saskatchewan, Stan Shadick, Robert Johanson and Ryan Dudragne visited the Fraser residence on December 4, 2006 and confirmed that indeed, a Curve-billed Thrasher was present. A second group of Saskatoon Nature Society members led by Michael Williams went out the following day when Nick Saunders was able to obtain some photographs. This bird has since been observed by birders on a daily basis through the time of writing on 16 December, 2006. Some visitors have come from as far as Vancouver, BC and Barrie, Ontario to see it.

The thrasher exhibited a dark gray-brown back and strongly decurved tip to the bill on both the upper and lower mandible. It showed white spots at the edge of its tail. Its breast had large spots. The eye was yellow-orange. These features eliminate the somewhat similar Bendire's Thrasher, which has smaller, arrow-shaped breast spots and a straight lower mandible with a pale base. Its back is much darker than the Curve-billed Thrasher illustration on page 413 in the First Edition of *The Sibley Guide to Birds* published in 2000. It more closely matches the illustration on page 105 of the first edition of *All the Birds of North America* except that the Dalmeny bird was in fresh plumage and displayed two thin wing bars. This feature plus its clear breast spots would suggest it belongs to the oberholseri subspecies.

David Fraser can definitely remember seeing the bird on a daily basis since 16 November but he thought it arrived about a week before that. He later mentioned seeing it on a day in November when it rained heavily. According to records from Environment Canada, the only day with heavy rain in November was November 8, so it would seem that the bird had been present continuously since that date.

Curve-billed Thrashers are permanent residents of parts of Mexico, Colorado, Arizona, New Mexico and Texas. The Dalmeny bird was about 1500 km north of the northern limit of the range in southeast Colorado.[2]

The Atlas of Saskatchewan Birds lists one previous hypothetical sighting of a Curved-billed Thrasher in Saskatchewan.[5] It was seen and heard by Wayne Harris near Raymore on 27 July 1986.[3] This sighting was the first report from anywhere in Canada.[3] A Curve-billed Thrasher also arrived in St. Claude, Manitoba in early November

1998 and stayed until April 4, 1999.[4] Another bird was seen in Barrhead, Alberta from August 1998 through April 1999 when it became blind after being caught by a cat and was forwarded to the Calgary zoo, where it still resides.[1]

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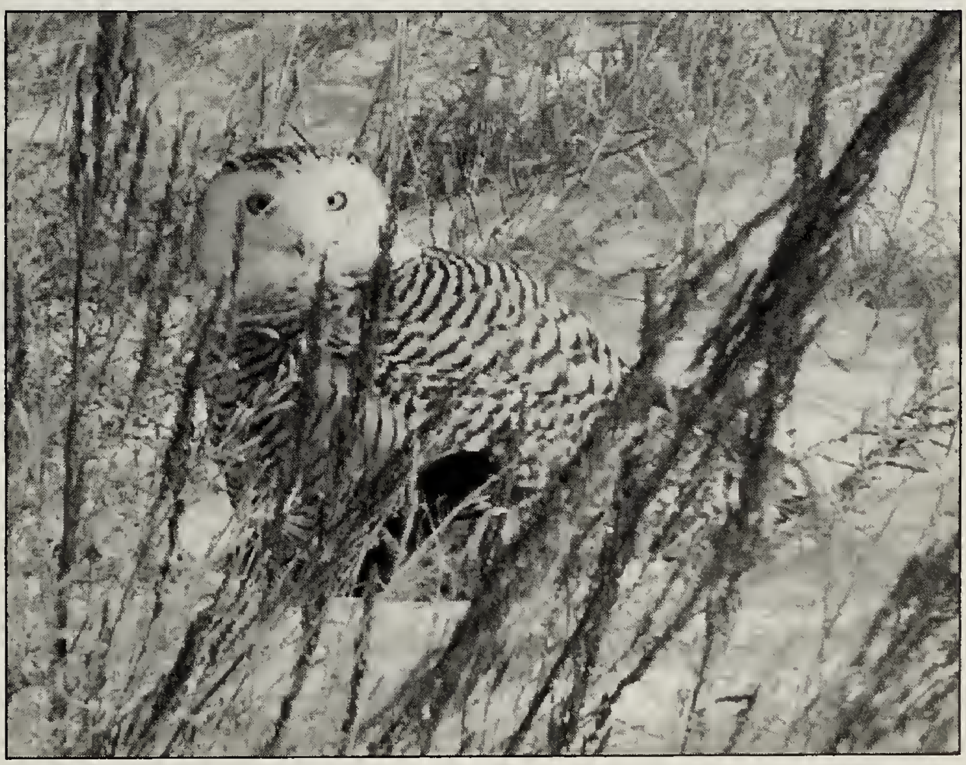
-*Nick Saunders*, 618 4th Street East, Saskatoon, SK and *Stan Shadick*, 903 Temperance St., Saskatoon, SK, S7N 0N3. E-mail: shadick@usask.ca

MALLARD ESCAPES BEING EATEN BY SNOWY OWL

Returning from an outing to Gardiner Dam, about 4:00 PM on December 2, 2006, one of the coldest days of the year, seven members of the Saskatoon Nature Society spotted three Mallards in a stubble field adjacent to the graveled grid road north of Cutbank, 90 km south of Saskatoon. When they flew up, a Snowy Owl (body heavily barred, only the head pure white) which had been perched on the snow near them, remained behind, facing us, about 35 metres distant. We noted something flapping behind the owl and at first thought it might be a piece of plastic.

As we looked, we saw the green head and a portion of the chestnut chest of a Mallard drake emerge from under the owl. The owl was sitting on it to hold it down. Quite likely the owl had descended silently upon the feeding Mallards, pinned one of them to the ground and was now preparing to eat it.



Snowy Owl sitting on Mallard *Nick Saunders*

For a few minutes, we watched as the struggling Mallard sought to free itself from the clutches of the owl. Finally, the owl, uncomfortable with our presence, rose from the ground, losing control of its prey. In a flash the Mallard was airborne, apparently unharmed, flying with incredible speed over our heads.

Strong and heavy, Snowy Owls can take prey as large as Snowshoe Hares and Sharp-tailed Grouse. Female

Snowy Owls weigh in the neighborhood of 1960 g; males average 300 g less.[1] A Mallard drake weighs about 1100 grams. The usual practice of Snowy Owls is to kill and consume their prey at the spot where the attack has taken place. Lynn Oliphant and Marten Stoffel, both familiar with Snowy Owl behavior, were not particularly surprised when told of the incident. Stoffel suspects, in fact, that certain owls, knowing that Mallards feed in stubble fields north of Gardiner Dam, remain in the area, relying on Mallards as a major food source. Oliphant has witnessed a Snowy Owl's capture of a Mallard.

Members of the group felt privileged to learn, first hand, a little more of Snowy Owl behavior. Their only regret: they had likely prevented an owl from having a duck dinner that evening.

[1] EARHART, C. M., and JOHNSON, N. K. 1970. Size dimorphism and food habits of North American owls. *Condor* 72(3): 251- 64.

- *J. Frank Roy*, 912-606 Victoria Avenue, Saskatoon, SK S7N 0Z1

CLUSTERED BUR-REED, *Sparganium glomeratum*, IN MANITOBA

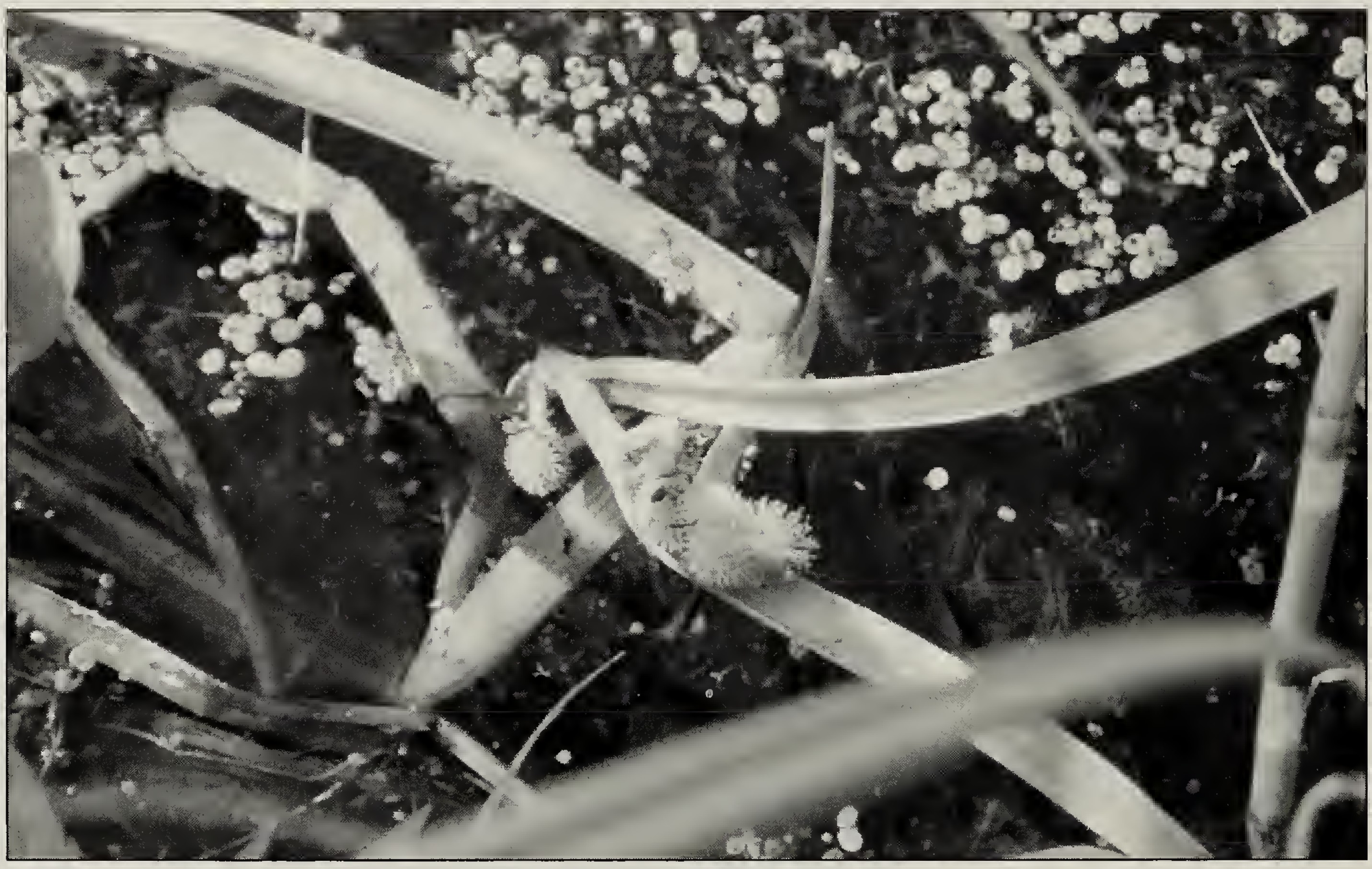


Figure 1. Sparganium glomeratum *plant emerging from the water* *Kevin Szwaluk*

Clustered Bur-reed (*Sparganium glomeratum* (Beurling ex Laestadius) L.M. Newman) plants were located at Pine Falls, Manitoba on July 6, 2006 (Figure 1). This plant apparently is rare in North America, and is consistent over its circumboreal range.[1] It is found in western Canada as well as in Ontario, Quebec and Labrador.[1, 2] It is locally common along the western end of Lake Superior.[1] This is the first collection of Clustered Bur-reed in Manitoba.

The town of Pine Falls is approximately 90 km northeast of Winnipeg. At the west edge of the town,

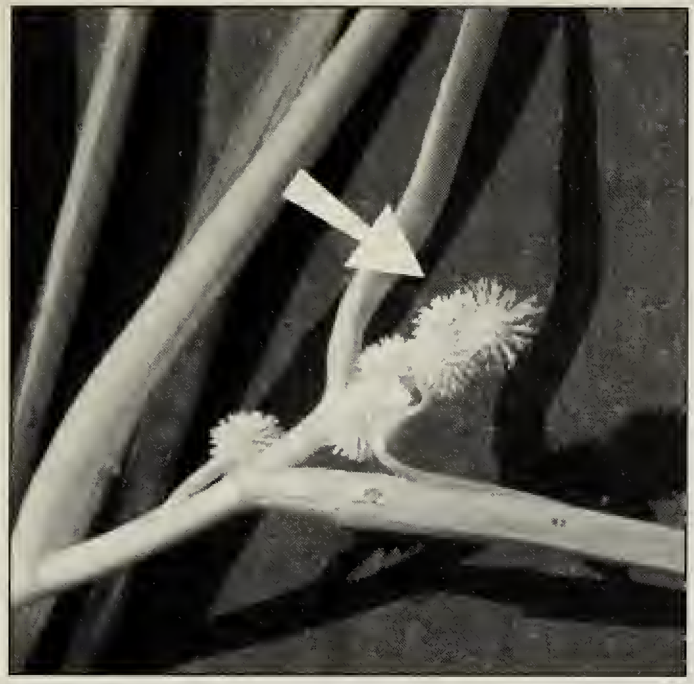


Figure 2. Staminate (arrow) and pistillate flowers are separate in dense round heads Kevin Szwaluk

near the General Hospital, we walked along a trail in the forest in search of the plant. Tom Reaume had visited the area four years earlier and recently became suspicious of his previous identification of this bur-reed. The site with the bur-reeds is at latitude 50°33'53" N and longitude 96°12'49" W. Several plants were found along a bank of a marsh in an opening among *Salix* sp., *Carex* sp., *Calla palustris*, and *Lemna* sp. Three plants were picked and pressed; several photographs were taken.

Unique characteristics of the species include leaves and inflorescence emergent and erect, inflorescence unbranched, and one terminal staminate head with several pistillate heads below (Figure 2). The plants were identified in the field using the Flora of North America.[1] Other bur-reeds in Manitoba include *Sparganium americanum*, *S. angustifolium*, *S. emersum*, *S. eurycarpum*, *S. fluctuans*, *S. hyperboreum*, and *S. natans*. The plants collected were donated to the herbaria at the Manitoba Museum, University of Manitoba, and the Manitoba Conservation Data Centre.

1. FLORA OF NORTH AMERICA EDITORIAL COMMITTEE, eds. 1993+. Flora of North America North of Mexico. 12+ vols. New York and Oxford.

2. SCOGGAN, H. J. 1978. The Flora of Canada. National Museums of Natural Sciences. National Museums of Canada. Ottawa. Publications in Botany, No.7

- *Tom Reaume*, 212 Sherburn Street, Winnipeg, MB R3G 2K6 and *Kevin Szwaluk*, 203 Browning Boulevard, Winnipeg, MB R3K 0L2. E-mail: kszwaluk@shaw.ca

* * *

"Some flowers reward their pollinators with warmth. A large blossom or a stalk of tiny flowers can produce a temperature higher than that of the surrounding atmosphere. The phenomenon was first noted in some wildflowers on the Alaskan tundra whose dark petals act as solar panels, absorbing the sun's heat. A warm flower offering a little nectar or pollen is a preferred site for a fly or small bee whose ability to forage declines on days when the air is cold." Peter Bernhardt,
The Rose's Kiss: A Natural History of Flowers, p.132

NATURE LIBRARY

A USER'S GUIDE TO SASKATCHEWAN PARKS

MICHAEL and ANNA CLANCY. 2006. Discover Saskatchewan Series. R. Nilson, series editor. Canadian Plains Research Centre, Regina. 455 pages. Soft Cover. 17cm by 24.5 cm. Approx. 350 black and white photographs, 32 colour photographs, 6 maps. $24.95 CDN. ISBN 978-0-88977-198-7.

A User's Guide to Saskatchewan Parks is the latest book in the Discover Saskatchewan Series published by the Canadian Plains Research Centre. With the sponsorship of Saskatchewan Regional Parks Association, Saskatchewan Heritage Foundation and Saskatchewan Parks Branch, the authors visited almost every regional, provincial and national park in Saskatchewan in the summers of 2004 and 2005, and all active parks in these categories are covered in this book. The only parks not covered are those that lack camping facilities: parks run by the urban park authorities and national historic parks.

This book is an expanded update of a 1999 book on Saskatchewan Regional Parks by the same authors.[1] This second edition differs from the first in that it contains updated information on active regional parks and includes all provincial parks and Grassland and Prince Albert national parks.

In the introduction, the authors describe the three types of parks discussed in the book, the purpose of the book and where to find key websites for current information on the parks. The authors want to interest readers in Saskatchewan's natural beauty, and have tried to create a useful tool for tourists and residents interested in the Province's parks. The book is written in conversational style, with the authors telling of their experiences in each park, including some amusing stories.

The book is divided by tourism region: southwest, southeast, east-central, west-central and northern. Each section begins with a map of the region. Each park entry contains information on location, dates/season and hours of business, entry fees, camping facilities and fees, sport facilities, available services in and near the park, and contact information. In most cases, provincial and national parks have longer entries than regional parks. Information on birding and hiking is sometimes in its own section but is sometimes located in the sports section, depending on the park entry. Each park entry has at least one black and white photograph of scenery, campsite, park sign, distinctive buildings, playgrounds or sport facilities. In the middle of the book, there is a series of colour photographs from 32 of the parks.

The final section contains recommendations for selected visits. It lists the parks with particular strengths in various service/activity categories. These categories include destination parks (with overall amenities for longer visits), wheelchair accessibility, hiking, birding, scenery, golf courses, baseball facilities, wilderness parks, cowboy poetry, rodeos, beaches, fishing, astronomy, and First Nations history and culture. This section is very helpful in designing one's travel and is one of the strengths of the book.

The index helps find park entries quickly and easily, and the map on the inside front cover shows the tourism regions and the distribution of parks. In the inside back cover, there is a two page summary table of services in the parks discussed in this book. Listed services and activities include camping/RV/tours, dump station, firewood, fast food, store (retail), phone, showers, modern washrooms, swimming, fishing, boat launch, golf, hiking/walking trails, laundromat, wheelchair access and fuel.

I think the book could have been improved by including all non-municipal parks, not just those with camping facilities, by using numbers on the tourism region maps to link directly to the entries on the parks shown on the map, and by the addition of a legend showing codes used in the list of park facilities on the inside back cover.

Overall this book is an excellent resource for tourists and Saskatchewan residents to learn more about activities, services and visitor costs associated with Saskatchewan Parks. It is also a good compliment for an earlier book on provincial and national historic sites.[2] I highly recommend it to anyone interested in Saskatchewan parks.

1. CLANCY, M. and A. CLANCY. 1999. A User's Guide to Regional Parks. Discover Saskatchewan series. R. Nilson, series editor. Canadian Plains Research Center, Regina, SK.

2. LALONDE, M. and E. LACLARE . 1998. A Guide to Historic Sites. Discover Saskatchewan series. R. Nilson, series editor. Canadian Plains Research Center, Regina, SK.

Reviewed by Rob Warnock, 3603 White Bay, Regina, SK S4S 7C9. E-mail: warnockr@accesscomm.ca

* * *

"The color of bird's eggs is almost as varied as the plumage of the birds themselves. While plain white is common especially for those that nest in tree cavities or burrows, almost every other hue can be found on a bird egg somewhere or other. The pigment is applied during the egg's final passage down the oviduct and uterus. The color may be a uniform tone, like the smooth blue-green of a robin's egg, or it may be applied in random spots, scrawls, and blotches as the egg twists through the oviduct and past the pigment cells."

Scott Weidensaul, *The Birder's Miscellany*, p.51

IN MEMORIAM

MARY SKINNER 1913-2006

LORNE SCOTT, Box 955, Indian Head, SK S0G 2K0

Mary Skinner receiving Nature Saskatchewan's Conservation Award in 1976 *Gary Seib*

Nature Saskatchewan lost a long time member and supporter with the passing of Mary Skinner on January 18, 2006. Mary Williamson was born on August 25, 1913 and raised on a farm north of Indian Head, Saskatchewan. She graduated from the University of Saskatchewan in 1932 at the age of 19 with a degree in Home Economics. During the depression she attended Normal School (Teacher College) in Regina and taught in rural schools for her room and board.

In 1935, she married Kenelm Skinner and they lived for 35 years at the Skinner farm in the Qu'Appelle Valley, a short distance downstream from Katepwa Lake. Mary's early interest in nature was enhanced by the natural landscape and abundance of wildlife in the valley. For years the "Skinner Flats" was their personal wildlife sanctuary. This unique habitat was so important that the provincial government acquired the land in the 1970s and it remains a sanctuary today. In 1969, Ken and Mary retired to Indian Head, where they pursued their outdoor activities for a number of years.

Mary was a life member of the Saskatchewan Natural History Society (Nature Saskatchewan) and active for many years. She was a Board Member from 1964-1971. She was also instrumental in forming the Indian Head Natural History Society in the fall of 1971, following the hosting of a very successful Nature Saskatchewan Summer Meet in Indian Head in June. Mary served as President of the new local society from 1971-1975 and in 1976, she received the Nature Saskatchewan Conservation Award.

Mary represented Nature Saskatchewan on the Qu'Appelle Implementation Public Advisory Board. She was also a member of the Indian Head Horticultural Society and local Museum Society. She contributed a number of articles to *Blue Jay*, wrote Nature Notes columns for the local newspaper, compiled Christmas Bird

Counts, and was an accomplished nature photographer and local historian.

Perhaps Mary's greatest strength was her commitment and patience to instill an appreciation of nature in young people. Not only her own children but many others in the community have knowledge, respect and concern for the natural environment thanks to her. I was one of those people; in 1966, Mary and Ken Skinner took me as a teenager to my first Nature Saskatchewan Summer Field Meeting, which was in Rocanville.

Mary kept a low profile and yet her enthusiastic energy in promoting the importance and conservation of our natural world was instilled in many of us. We would do well to pass on some of her knowledge and commitment to conservation to the next generation.

GEORGE F. LEDINGHAM, 1911-2006.

C. STUART HOUSTON, 863 University Drive, Saskatoon SK S7N 0J8, E-mail: stuart.houston@usask.ca and ROBERT W. NERO, 546 Coventry Road, Winnipeg MB R3R 1B6

George Ledingham at the herbarium in his later years

AV Services, University of Regina

George Filson Ledingham was born on the family farm, on section 4, township 17, range 27 w2, near Boharm, on 31 January 1911. He attended Normal School, taught for a year in a rural school near Keeler, and obtained a B.Sc. in 1934 and M.Sc. in 1936 from the University of Saskatchewan. His research on the phylogenetics of alfalfa earned him a

Ph.D. from the University of Wisconsin in 1939. He married Marjorie Beattie from Carr's Brook, Nova Scotia on June 6, 1942. They had one son, Beattie. George taught biology at Regina College, where he was named Assistant Professor in 1946 and Associate Professor in 1957. He was promoted to Professor, University of Saskatchewan, Regina Campus, in 1967 and was chair of the department from 1969 to 1971. From 1974 he participated in the department's growth within the newly designated University of Regina. He taught full-time until 1976 and part-time until 1983.

George collected 50,000 specimens of vascular plants, mosses and lichens, and until two months before his death worked almost daily in the biology department's herbarium, named for him by the University in 1990. He was an inspiration to thousands of students, some of whom took up careers in biology and medicine. In 1965-1966 he traveled the world collecting specimens of *Astragalus*; a new species he found in Iran bears the name of *Astragalus ledinghamii*. Bernard Boivin named a species in the mint family occurring in Saskatchewan, *Physostegia ledinghamii,* after him. It is known as Ledingham's False Dragonhead.

Following the unexpected death of Isabel M. Priestly in 1946, George saw the need for a provincial society to carry on the *Blue Jay.* As president of the Regina Natural History Society, he organized the founding meeting of the Saskatchewan Natural History Society (SNHS, now Nature Saskatchewan) in January 1949 and became its first president. Four times a year, a working party met in George's biology lab to collate, staple and address by hand each copy of the *Blue Jay* for mailing. Six years later, he began the longest term, 16 years, as editor of *Blue Jay* (Bob Nero filled in during George's sabbatical in 1965-66). During his years as editor of *Blue Jay,* George regularly provided good, informative pages under the heading "Blue Jay Chatter," a title initiated by the preceding editor, Lloyd Carmichael. As George said in the December 1962 issue, "The amateur naturalists of Saskatchewan have produced a journal which is accepted by people of professional competence, including scientists from the staffs of universities and government wildlife departments, who both contribute to it and use its records."

In 1957, George began his tireless mission of working towards the creation of a national grasslands park. That year, he had encouraging discussions with Winston Mair, Chief of the Canadian Wildlife Service, guest speaker at the SNHS annual meeting. In 1959, Canada was host to the International Botanical Congress; George helped lead the tour of the potential grasslands park area. In 1960, in *Canadian Audubon*, he called for a protected area for some of the remaining grasslands. In 1963, the SNHS passed a resolution asking for a national grasslands park and George became chair of its National Grasslands Park Committee.

On Leap Year's Day, 29 February1964, George proposed to the SNHS executive a 2250- square mile national park in the Val Marie - Frenchman River area. The society made a formal proposal to the Deputy Minister of Northern Affairs and Natural Resources on 26 June that year. In 1966, Parks Canada visited the area and found it impressive. In 1973, the Hon. Jean Chrétien, Minister responsible for Parks Canada, was the guest speaker at the annual SNHS meeting, where he spoke highly of the grassland park proposal. A number of public hearings were held in 1976. Only in 1981 was the park "formally announced." In September 1988, the provincial and federal governments signed an agreement and finally, in September 1989, a parks information center opened at Val Marie. Land acquisition has continued since on a willing seller/willing buyer basis.

For his persistence and eventual success, George was given the J.B. Harkin Medal from the National and Provincial Parks Association (NPPAC) in 1981. The citation stated that George Ledingham led the "long, tedious, often discouraging, and certainly exhausting undertaking ... [and] played a pivotal role in all of this. He travelled extensively in southern Saskatchewan; he lectured to anyone interested enough to listen; he led delegations; he wrote and encouraged others to do likewise; and he stimulated other groups, including the NPPAC, to join him."

George received other honors. For his role in founding the provincial society, his terms as Society president and *Blue Jay* editor, his botanical collecting and work toward the formation of a grasslands national park, he was made a 'Fellow of the Saskatchewan Natural History Society' in 1987. He was honored with a special Environment Award from Environment Canada in 1985; the Douglas Pimlott Award from the Canadian Nature Federation in 1985; an honorary LL.D. degree from the University of Regina on November 1, 1986; and the Heritage Award from the Canadian Parks Service in 1992. In 1994, he received the Saskatchewan Order of Merit, the province's highest honor. A George F. Ledingham Book Prize is presented annually at the University of Regina.

In 1962, after George had enjoyed a birding outing in the southwestern United States with three professional Ontario birders – Jack Livingston, Bill Smith, and Jim Baillie – he joined botanist George W. Argus and RWN for a week (June 26 to July 4) at a field camp at Little Gull Lake on the south shore of Lake Athabasca. He provided enthusiastic assistance and good company and recorded 66 species of birds in that week. On his return, he wrote an article, "From southern deserts to northern sand dunes," describing both trips (*Blue Jay* 20:98-102, 1962). Included is an amusing and enlightening sketch, by Ruth Bennett, of George trekking in the dunes, loaded down with plant presses, binoculars and bedroll, surrounded by blackflies, and almost stepping on a plant labelled *Astragalus athabascii*. George wrote, "I have not mentioned the Grand Canyon nor the Pacific Ocean. Actually these are not much more startling nor beautiful than the sand dunes and bogs which we visited in northern Saskatchewan."

Marjorie died in March 2000 and George lived independently at home on Athol Street until his last month, which he spent in a special care home. He died on October 18, 2006, less than two days after admission to hospital. In a letter dated mid-August 2006, George seemed almost gleeful about heading off to the University each day to work in the herbarium. He sounded as energetic and enthusiastic as when RWN first met him 50 years earlier.

George was a quiet, modest man, gifted with stubborn tenacity and a winning smile. No matter how discouraging the prospects, he persisted. We consider ourselves fortunate to have known and worked with this warm, kind, thoughtful man for many years.

NATURE SASKATCHEWAN NEWS

Nature Saskatchewan and Saskatoon Nature Society hosted the Fall Meet held in Saskatoon from September 29 to October 1, 2006. The Awards Banquet took place on Saturday, September 30. The annual awards program recognizes the contributions of volunteers to Nature Saskatchewan and to conservation. The awards, and their recipients, are listed below in alphabetical order.

Cliff Shaw Award

Named for the second editor of *Blue Jay*, naturalist and writer Cliff Shaw, this award is presented annually to recognize an outstanding contribution in the past four issues of the magazine. Special consideration is given to articles by new contributors. This year's recipients are **Danna Schock** and **Trent Bollinger** for their article in the September 2005 issue, 'An apparent decline of Northern Leopard Frogs (*Rana pipiens*) on the Rafferty Dam Mitigation Lands near Estevan, SK.'

Conservation Award

The Conservation Award is presented each year to an individual whose total contribution to conservation is outstanding. The award may be presented for a specific project or for conservation work over a period of years. The recipient of this years award is **Alan Appleby** who served for over 16 years as the Director of Lands, Director of Parks and Assistant Deputy Minister of Resource Programs in what is now called Saskatchewan Environment. A highlight in Alan's career in government was the passage of the Parks Act in 1986, which led to the creation of 14 new parks, including Saskatchewan's first wilderness park, Clearwater River Provincial Park. He was also involved in negotiating the Grasslands National Park agreement which led to the founding of the current park. Alan was Conservation Director with the Canadian Parks and Wilderness Society (CPAWS), Saskatchewan Chapter, from 2000 to 2006.

Fellows Award

Since 1987, the Society has designated members who have made a long and outstanding contribution as "Fellows of the Saskatchewan Natural History Society". In 2006, five members were recognized with this award: **Attila Chanady, Dale Hjertaas**, **Anna Leighton, Ted Leighton and Dianne Secoy Smith.**

Attila Chanady receives Fellows Award from Nature Saskatchewan President Bill McKenzie. *Branimir Gjetvaj*

Dale Hjertaas receives Fellows Award from Bill McKenzie. *Branimir Gjetvaj*

Anna and Ted Leighton receive Fellows Award from Bill McKenzie
Branimir Gjetvaj

Larry Morgotch Memorial Award

Initiated by the Yorkton Natural History Society in memory of former member Larry Morgotch, this award is presented to the member showing the best photographs at the Meet's Friday night presentation.The winner this year was **Anna Leighton** for her presentation on the Great Sand Hills.

Long-term Service Award

This award is presented to an individual who has made an ongoing contribution to the society through their volunteerism and their energy. This year's recipients were the two people who organize the Christmas Bird and Mammal counts, and compile and computerize the data: **Robert Johanson** and **Alan Smith.**

Robert Johanson receives Long-term Service Award from Bill McKenzie
Branimir Gjetvaj

Natural History Scholarship

Nature Saskatchewan encourages academic achievement and excellence with a scholarship for graduate students of excellent academic standing whose studies are in keeping with the goals and objectives of the Society. The 2006 recipients are **Mark Bidwell** and **Arun Govind**. Mark is a Ph.D. student at the University of Saskatchewan, studying the influence of fire and logging on the distribution, abundance and breeding success in boreal birds. Arun Govind is a Ph.D. student in the Geography Department at the University of Saskatchewan, studying shrub habitat dynamics in a mixed grass prairie. His fieldwork is being conducted in the Grasslands National Park in southern Saskatchewan.

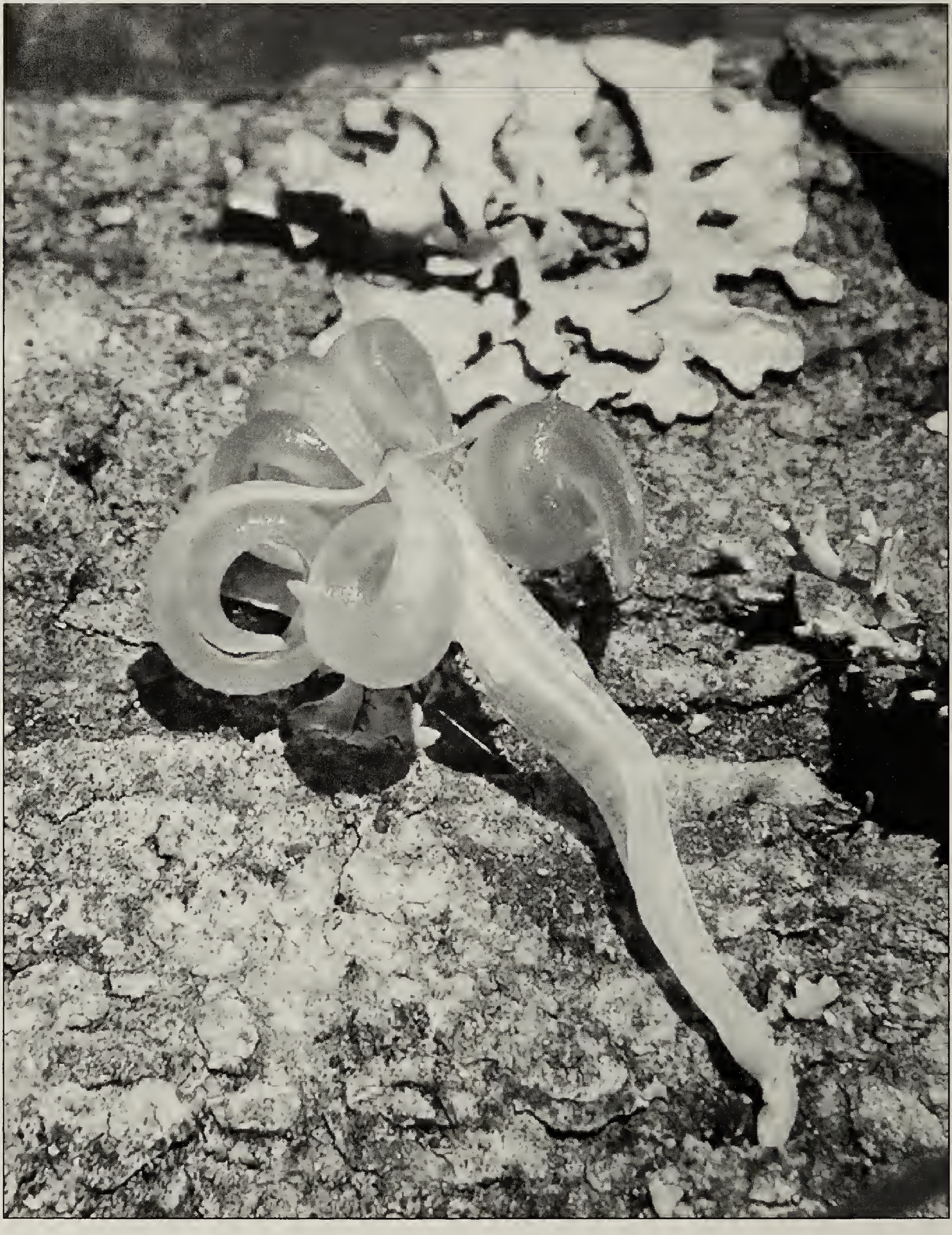
Volunteer of the Year Award

This award acknowledges individuals who have devoted significant time and energy to promoting the goals of the Society. This year the Society acknowledges two dedicated volunteers **Attila Chanady**, the out-going president of Nature Saskatchewan and **Mary Aird,** the Administrative Director on the Nature Saskatchewan Board. Attila has made a number of major contributions to the Society, both as President for the past two years and previously in a number of capacities on the Board of Directors including Vice-President and Conservation Director. Mary Aird joined the Board during the fall of 2003. In June of 2004, she became involved in a review and revisions of the Board's Policy Manual. All of the directors were involved in reviewing policies related to their areas of responsibility; Mary compiled, formated, and finalized the manual.

MYSTERY PHOTO

DECEMBER 2006 MYSTERY PHOTO

The object, which resembles an umbrella with curled ribs, is about 2 cm long. What is it? (It was placed on a lichen covered log for this photo, but was not found there.)



ANSWER TO THE SEPTEMBER 2006 MYSTERY PHOTO

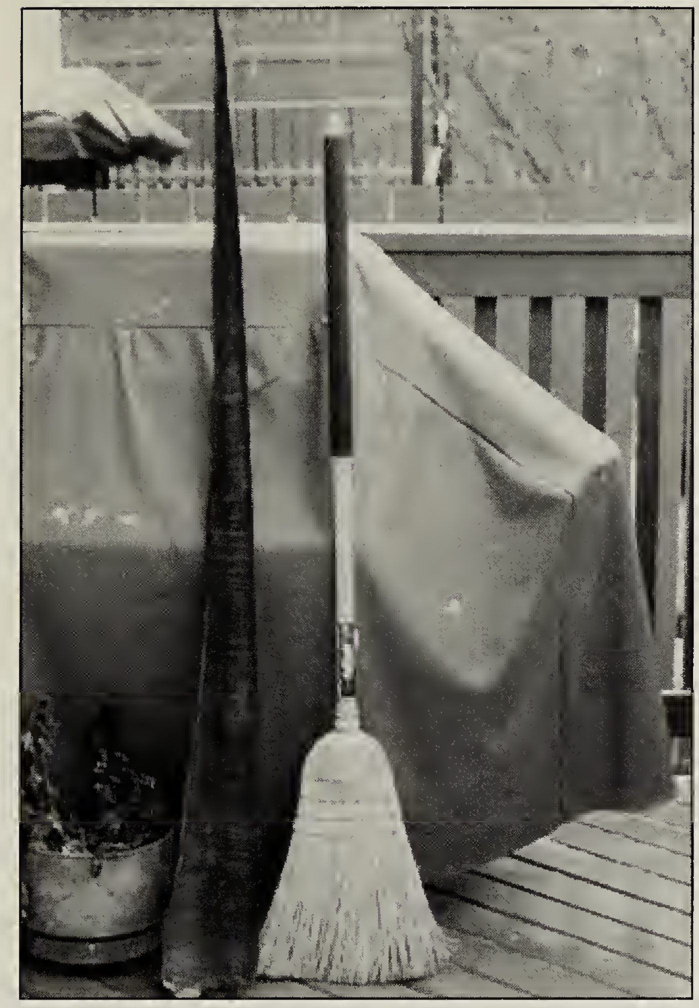


Figure 1

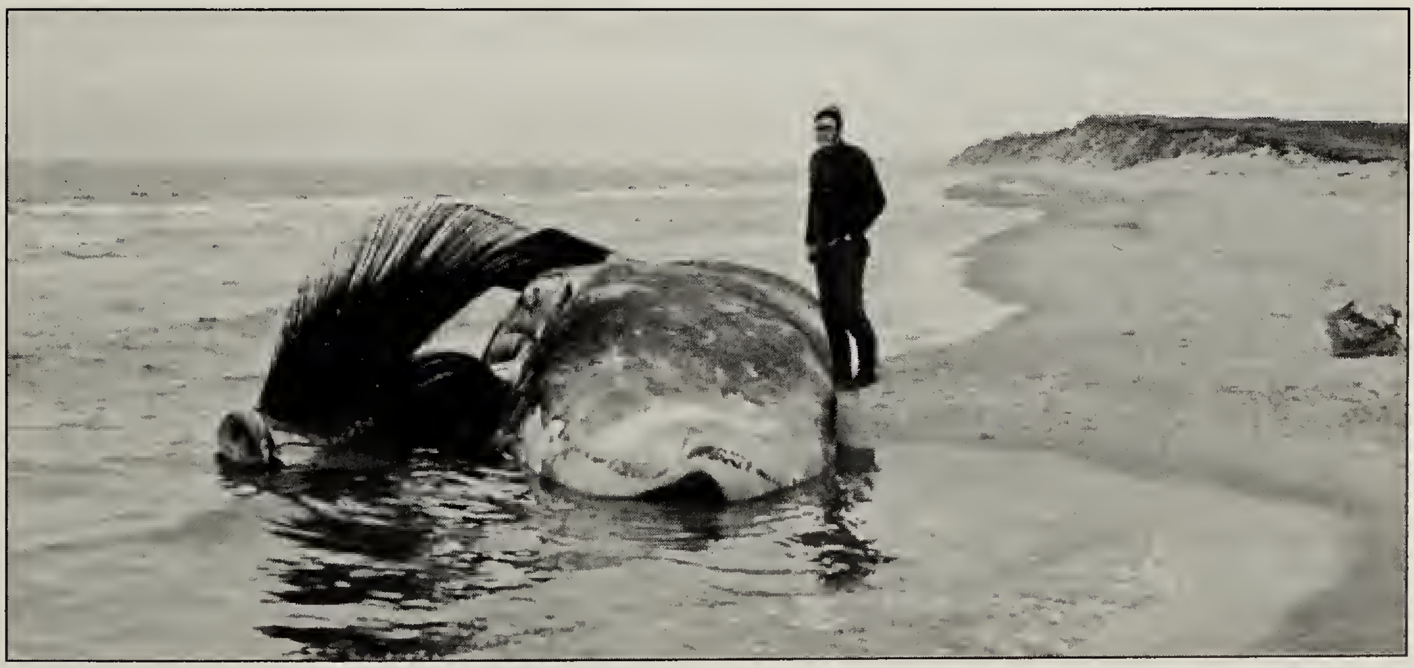
The short answer to the question posed with the September 2006 mystery photo is that both articles in Figure 1 collect small particles which are moved from one place to another. The object on the right collects dust, etc., for placing into the dustpan, under the rug or whatever. The object on the left is a baleen plate from a Bowhead Whale and it traps the invertebrates or small fish that the whale feeds on. These are gathered up by the whale's tongue and swallowed.

This baleen plate comes from a female Bowhead Whale washed up on shore on 27 August 1973, and found by Ernie Kuyt while he was engaged in Arctic waterfowl surveys along the Beaufort Sea coast. (Figure 2) The location was Warren Point, about 50 km NE of Tuktoyaktuk.

The baleen plate, one of hundreds hanging from the upper jaw of the whale, measured about 1.7 metres (5.5 ft), excluding the tassels of black filaments at the narrow, lower end of the baleen.

The whale was a least 16.5 m long. This size, and that of the baleen plate shown in the photo, are by no means records; many of the plates were considerably longer than the one collected.

The editors thank Ernie Kuyt for providing the photos and the answer for the September mystery photo.



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